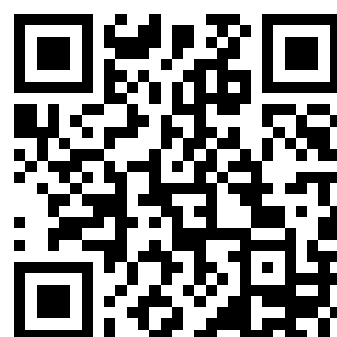


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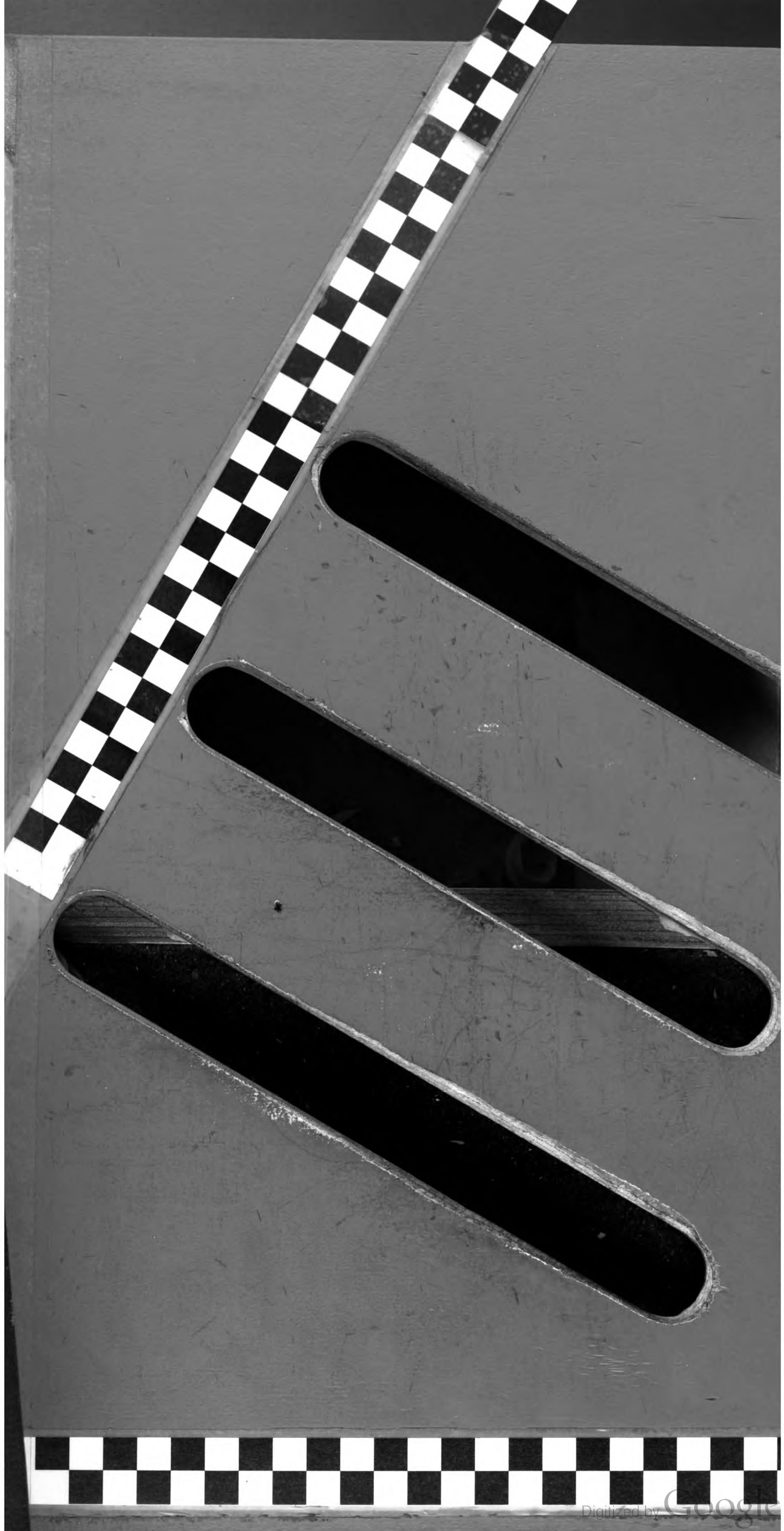
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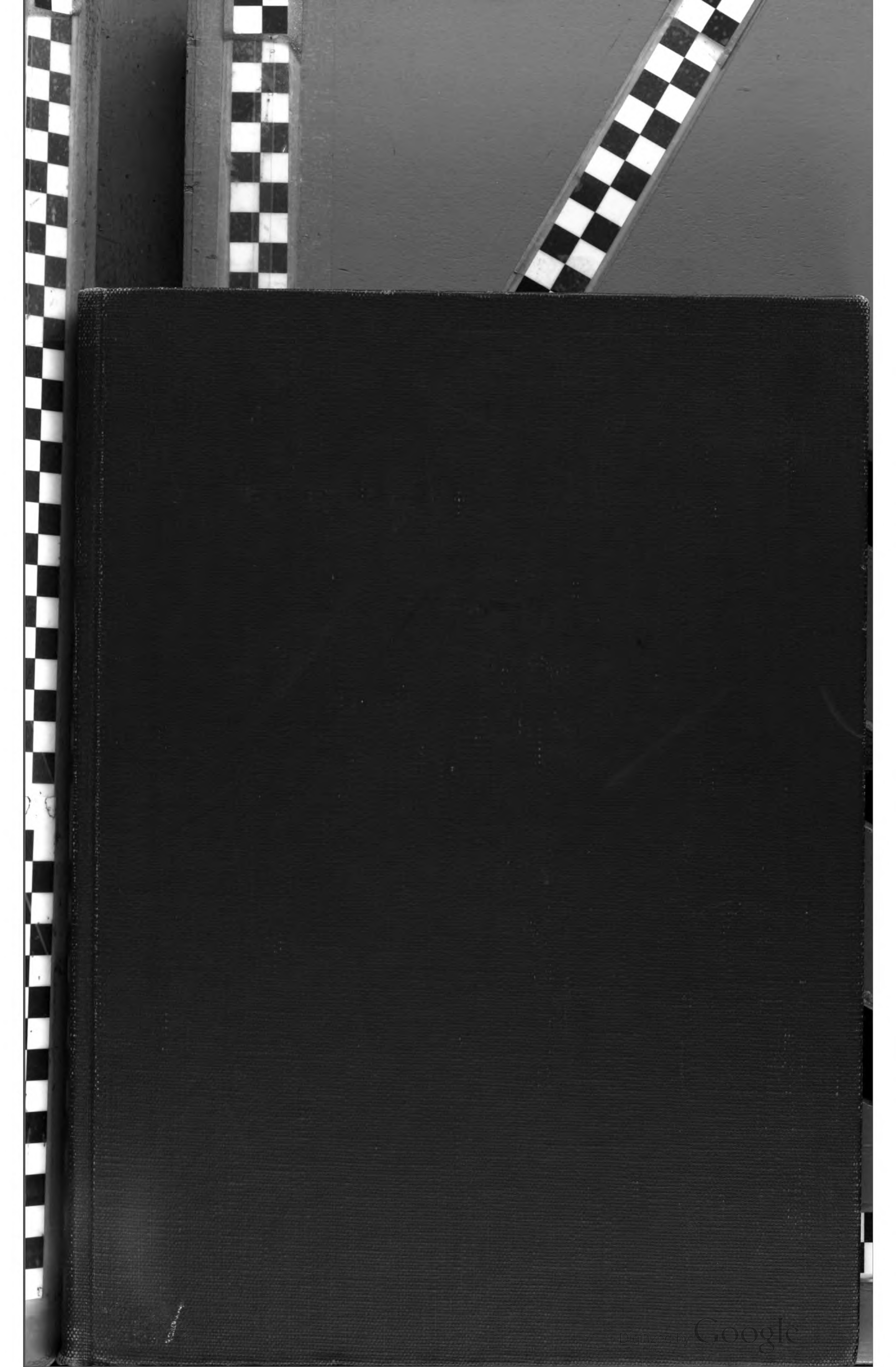


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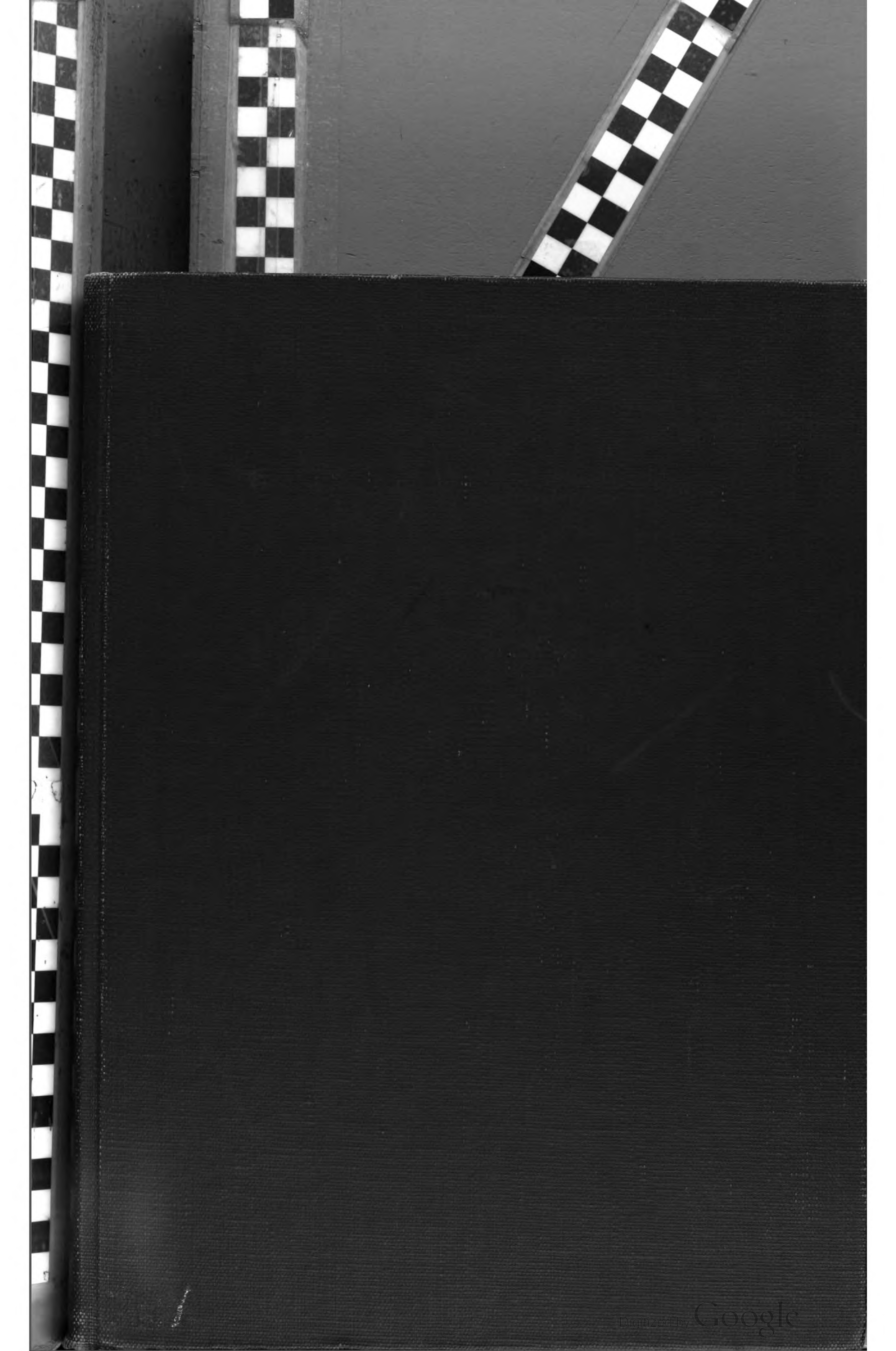






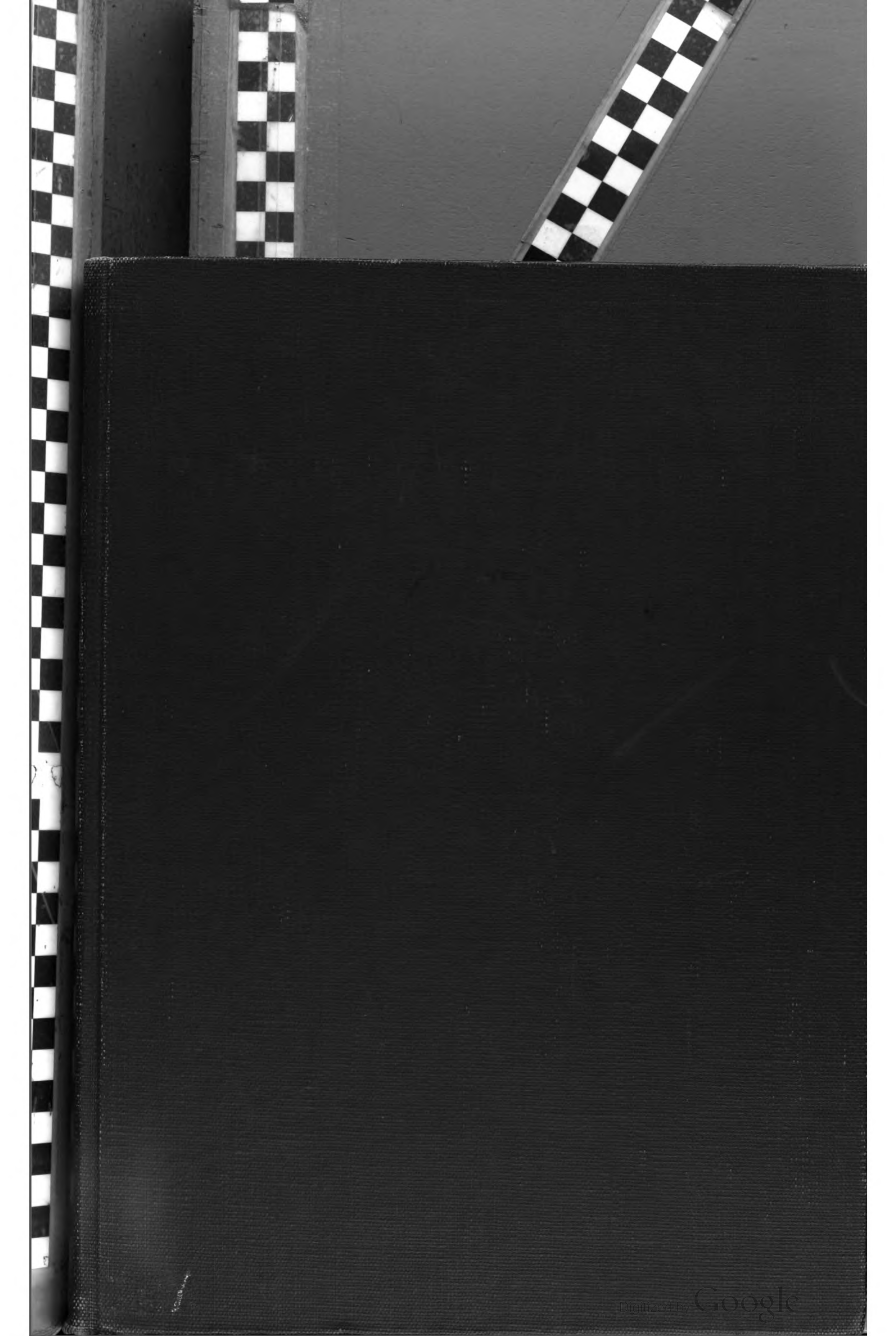














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THE  
COLOURED ORNAMENT  
OF ALL HISTORICAL STYLES  
BY ALEXANDER SPELTZ

PART I: ANTIQUITY



THE  
COLOURED ORNAMENT  
OF ALL HISTORICAL STYLES

WITH COLOURED PLATES FROM OWN  
PAINTINGS IN WATER COLOURS  
BY ALEXANDER SPELTZ  
ARCHITECT

FOUR PARTS, CONTAINING SIXTY  
COLOURED PLATES EACH, WITH TEXT

PART FIRST  
ANTIQUITY

SIXTY PLATES IN THREE-COLOUR AND FOUR-COLOUR  
PRINTING WITH A FRONTISPIECE AND ILLUSTRATED TEXT

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## PREFACE.

The brilliant success of my work "The Ornamental Style", published in 1904 by Bruno Hessling in Berlin, which up to this day has been printed in 26 000 copies in three German and two English editions as well as in a Swedish and a French one, has emboldened me to lay before the public another similar work in chromatic printing, although I am quite aware of the difficulties of such an enterprise because of its high cost of production. For the only way of accomplishing a first class work is the employment of three-colour and four-colour printing, which naturally raises the prime cost exceedingly.

In this newest graphic method it is possible, as a consequence of the use of photography, to represent in printing exactly that, what the author intended to give. Chromolithography as well, supplies good printings, but the ornaments, according to the technics of lithography, come out too exactly, too uniformly. Lithographic printings fail to reproduce the characteristic features of the original copies, they are monotonous in spite of their being resplendent with the most beautiful colours.

In accomplishing this work special attention has been paid to the possibility of easily finding the text belonging to each figure, and to a classification according to the chronology of art-history and archaeology, for this work is not merely intended to be a standard for the polychromatic ornament, but also a resource for the study of history of art and archaeology.

If this work, whose first part is herewith published and whose further parts Medieval Period, Renaissance and Rococo Style, Classicism will follow as soon as possible, contributes to revive that sense of colours lost in this our prosaic time and helps to restore to our generation that delightful rejoicing in beautiful forms and colours, the writer's end has been achieved.

A. Sp.

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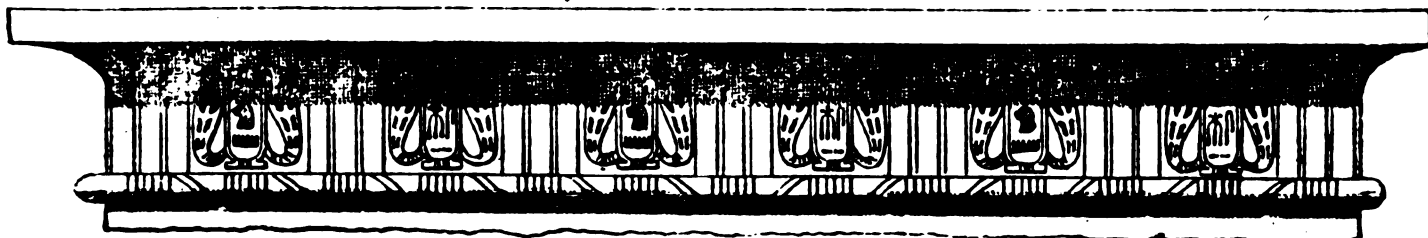
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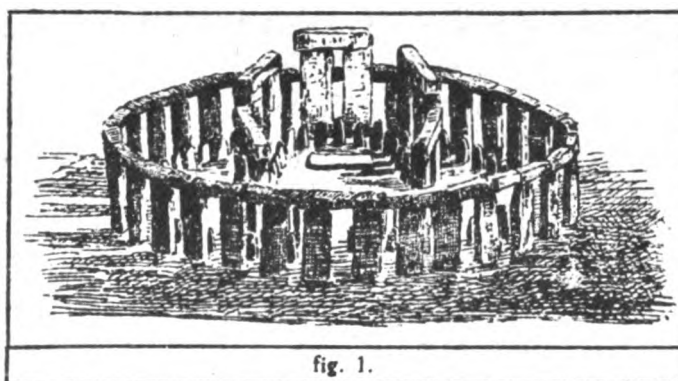
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## INTRODUCTION.

It was in the early stone age or palaeolithic period, that man began to decorate his utensils and tools by means of a primitive art, after he had very likely passed a long time of preparation. Pictures carved in horn or bone by means of pointed stones, representing animals which lived around primitive men, have been found in several caves in France and Switzerland and exhibit in spite of their primitive character a remarkable understanding of the special features and movements of those animals. Besides that, plastic representations of the fauna of that time have been discovered, even those of human figures, though of most primitive workmanship. There are different opinions, whether there was originally the drawing or the plastic representation, but the first hypothesis seems to be correct. Even in this early period of art man began already to employ colours, as is proved by series of painted mammoths, aurochs, reindeers, and horses found in the grottos of Eyzies in Dordogne and in Altamura in Spain. Regarding the very low state of culture in that time, those paintings must be looked upon as rather remarkable accomplishments.

In the later stone age or neolithic period man disappears from the caves and inhabits round or square huts of loam walls, covered with thatches. Towards the end of that period we find primitive dwellings in the middle of lakes, so-called lake villages or lacustrine dwellings, the inhabitants of which, however, appear to have undergone a long stagnation in their development compared with the inhabitants of the land. This period has produced those noteworthy stone buildings which are known as barrows, cairns, menhirs, cromlechs, stonehenges (fig. 1) especially in the Celtic countries. Tools are still made of stone, but in greater perfection and sharpened. It is a strange fact that the drawings of this period are less in number and decidedly inferior to those of the first period of stone age. It seems, that the realistic point of view in matters of art has been dropped



and a new kind of art has sprung up, tending merely towards the use of ornaments, while in handicraft an improved sense of forms and even a taste for objects of personal adornment begins to prevail. In examining the pieces of plaited work found in the Swiss lake villages, we easily can trace in them the natural origin of ornamental designs, which have the perfect charm of the ornament, and later on have been used in other ways too. By means of differently coloured switches they have brought about even a coloured ornament. Similar designs, consisting of dots, lines, zigzags, crosses, curves, circles etc. predominate in ceramics, but it is not very likely, that the ceramic art should have taken its ornamental models from the textile art, the former being the older one. Simple

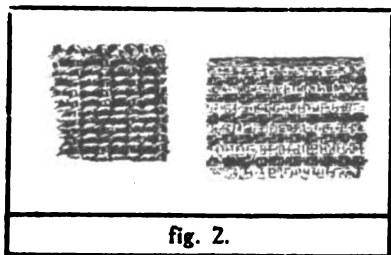


fig. 2.

as this purely linear art is, it has taken the part of a standard to the later art, for it has cultivated a taste for symmetry and a natural rhythm.

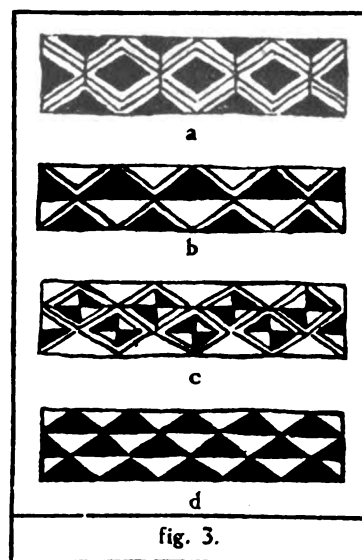
Especially in Southern Europe – towards the end of that period – a sort of «band-ceramics» was developed, a continuous design with a carved strip at the top and the bottom.

The transition from the stone age to the iron age took place in various periods with the different tribes, gradually spreading from the Orient over Southern Europe to the north of it. Concerning the south of Europe, very probably the third and second millennium has been the time of the iron age. Drawings found in that time are on no account to be compared with such of the earliest period in sense of art and perfection, though they as a kind of hieroglyphics afford a distinct idea of reality. Weapons, tools, gems etc., however, make manifest an important improvement in the formation and ornamentation as well as in occasional employment of polychromy. In ornamental art a certain system was developed, mainly consisting of bulges standing together in rows, spiral lines combined with each other more or less artistically, further strings, zigzags, circles etc. In this way a style came into existence, which during a millennium predominated in the whole of Central Europe and which in history of art erroneously has been termed geometrical style.

Surely, the term geometrical ornament may be explained in two ways. Either we understand by it an ornament which apparently consists of geometrical figures, or an ornament which has been constructed by means of geometrical principles. If somebody, speaking of the geometrical ornament of the last period of prehistoric art, means to denote the first version, no doubt he is right, but not, if he implies, that at the same time the ornament has been planned on the principles of geometry. As there are no authentic contemporary documents of the stone or iron age of Europe, it is very difficult to state the precedence of that ornament said to be geometrical. But there are still tribes existing, who have not yet come to the condition of the iron age, and here there opens a possibility of searching for the origin of this ornament, though the course of deve-

lopment of the still existing races is very different to that of the prehistoric tribes of Europe. To modern men it is an easy task to construct an ornament by putting together geometrical figures in rhythmic order, but that was otherwise with prehistoric men, who hardly could have any knowledge of geometrical figures. On the contrary, we must presume in consequence of certain scientific investigations in primitive races, that the ornaments called geometrical in history of art are nothing else but realistic imitations of the shapes of animals, plants and things of every-day use, which in course of time have been transfigured into geometrical forms. With this hypothesis Dr. Karl von den Steinen in his observations in the country of the Central Brazilian Indians, Stolpe in his observations of the art of the Polynesian tribes, Preuss in his observations in Kaiser Wilhelmsland, Abbé Breuil in his essay «La dégénération des figures d'animaux en motifs ornementaux à l'époque du renne» thoroughly agree.

According to the judgement of Karl von den Steinen and those of many other experts the Bakairi ornament in fig. 3a represents the scale-pattern of a certain fish (Mereshu=fish), fig. 3b the pattern of the bats, fig. 3c the scale-pattern of another fish, fig. 3d the uluri, a triangular waistcloth. The fact, that all these figures are filled in with black, strengthens the impression that they have been taken from a concrete object. These verbal informations certainly must overthrow all ever so acute theories on the prehistoric geometrical ornament, the more, as they have been obtained from the makers of the ornaments themselves or their contemporaries. Is not e. g. the volute, which we find employed so often in prehistoric art and even later on in historical art, very likely to be an imitation of that spiral line which we see in so many chonchifera, as snails etc., and which already has been the model for the Ionic capital?

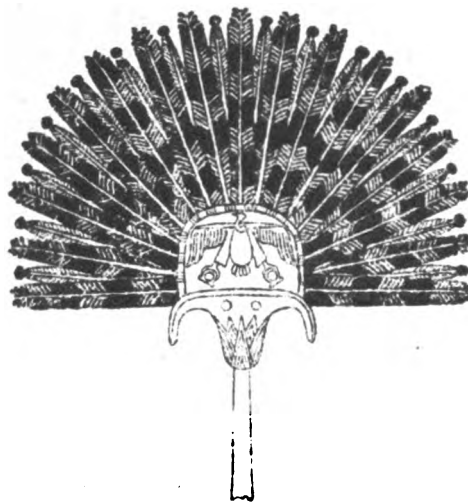


It is more likely that the artists of the stone age have taken their sketches from the direct study of nature instead of composing their ornaments artificially of geometrical figures, be they ever so simple. And furthermore it is to be supposed that there have been copyists either at the same time or afterwards who have copied those originals, and in doing so have deformed them in such a way, that originally purely naturalistic drawings at last have been changed into purely ornamental motives. As well as we can trace in still existing primitive races the origin of their whole ornamental art, as well must it be possible to find the origin of the so-called geometrical ornament of prehistoric art. The point is, the rhythmic figures occurring there are geometrical figures to our eyes, but were not then, being deformed or distorted naturalistic pictures.

There is reason to believe, that the development of art has progressed from the naturalistic to the geometrical motive, for the ornament cannot be a primi-

tive thing neither in its principles nor in its mode of application. It must be the result of an object or the naturalistic drawing of an object. Even if we admit, that the Peruvians at the time of the discovery of America have been much more cultivated than the modern Indians in Central Brazil, where Dr. Karl von den Steinen made his studies, it is almost sure, that their ornament has had the same origin as that of the modern Indians in Brazil. The advanced textile art of the Peruvians does not make it likely that the figures exhibited in their tissues are only the produce of an inferior artistic ability, but that of a conventional style of representation.

The rise of this sort of ornament out of the original naturalistic ornament is easily to be traced in the remains found in the last few decades in the isle of Crete. (See: The Aegean Ornament.)







## The prehistoric Ornament.

### Plate 1. Objects from the Tombs of Ancona in Peru.

(A. Stübel und W. Reiss, Das Gräberfeld von Ancona.)

Figs. 1, 5, 14. Spindles of hardwood with earthen cylinders. — Figs. 2, 4, 6, 12. Scarfs, also used as head-gear. — Fig. 3. Pearl necklace. — Figs. 7, 9. Painted earthenware. — Figs. 8, 10, 11. Hand-bags. — Fig. 13. Piece of a painted earthen vessel.

### Plate 2. Tissues from the Tombs of Ancona in Peru.

(A. Stübel und W. Reiss, Das Gräberfeld von Ancona.)

Figs. 1—11. Tissues and embroideries of cotton and wool.

## The Egyptian Ornament.

### Egyptian Painting.

Until now it was impossible to find any forms of art, from which the Egyptian art might have taken colours or forms; it must, therefore, be looked upon as an absolutely original art. On the contrary, it has served as a model for the forms of art to very many other nations, especially to the Achaeans and Greeks. The objects found lately in the isle of Crete, at Mycenae, Tiryns etc. have revealed the transition form from Egyptian to Greek art in a most decisive manner.

The oldest Egyptian wall-painting which is known to us, being on a level perhaps with the art of the now existing Central African tribes, was done in black, white and red, and represented the life upon the Nile in rather primitive drawings. It showed a strict schematism, which is to be traced through nearly all the periods of Egyptian art. This schematical art we may term court-style. Besides it, there has existed a more realistic popular style for inferior personages. Egyptian painting was either plain or relief painting, and the Egyptian relief

must be reckoned to the art of painting, for it was not intended to represent sculpture work, but simply distinct outlines of paintings. Those outlines were mostly carved in, so that the picture was on a level with the surface of the wall, sometimes however we find also the background engraved, the picture in this case resembling a bas-relief. At any rate the style of drawing and the execution of painting were the same. Paintings which were not to cost very much were done in the cheap way of plain painting, whereas the outlines of a work that were to last were carved in, and only extremely luxurious works were made projecting from the background. Even nowadays we are able to see, that in most Egyptian works of art the special kind of painting was chosen according to the available means.

Very strange is the kind of perspective employed by the Egyptians in representing human figures, or rather the absence of any perspective at all. Every part of the body is represented as it shows itself most characteristically. Head, arms, legs and feet are always represented in profile, eyes, shoulders and chest en face, the lower part of the trunk in half side-view, the hands invariably show their backs with visible fingernails, whereas the feet are drawn from the inner side so as to avoid the difficulty of shaping the toes.

Moreover this schematic mode of representation was subject to various principles of style, e. g. outstretched arms and legs were always opposite to the spectator, perhaps in order to maintain the distinctness of the drawing. Besides, the said court-style required, that all persons represented should look to the right hand side, and in case that was impossible, the figure was simply turned over with all its details. This strict schematism seems to have been laid down as a principle already in the prehistoric period, as it is to be noticed in the oldest monuments. We must consider, however, that the artists of the earlier times have not been quite so hampered in by the court-style as those of the later epochs, they were still experimenting.

By the thorough reformation in religion and art under Amenophis II. Echnaton the court-style was repressed, and a more popular art was elevated to the rank of Art of State. Yet the reformations of this sovereign were of so gigantic a nature, that they could not last very long, and already under his successor Haremheb (1350–1315) a heavy reaction restored the former conditions. Schematism again became the prevailing form of art, pure originality disappeared, and free artistic aspiration vanished away. Only the technique of painting had derived advantage from these changes, as the reliefs in the temple of Setho (1315–1292) clearly show. The main employment of painting in Egypt was the decoration of walls and ceilings, columns, capitals, grooves, channels etc. In many tombs of the pyramids the walls were covered with rosy red polished granite, which in most cases was varnished with a coloured glazing, while the hieroglyphs were painted with opaque colours on the rough background. But here, however, we find already occasionally coloured plates of

faïence, about 2–3 cm in size, as wall-covering, probably the first occurrence of tessellated walls. Walls of sandstone or bricks were plastered with stucco, which was impregnated with a certain kind of varnish. Even paintings on wood or linen always had a thin ground of gypsum. The paintings on the shafts of columns and on capitals, smooth in the beginning, must in later epochs give way to hieroglyphic reliefs with painted readings at the bases of the columns. Gradually all parts of architecture became painted, whereas in the earlier periods contrasts existed between painted and unpainted surfaces.

The Egyptian art of wall-painting was based on the idea of imitating carpets hung on the walls, as the purely decorative edgings prove; so we are obliged to assume, that there has been a textile model as well as in so many other parts of architecture of various styles. The painting of ceilings also was an imitation of coloured stuffs suspending from the ceiling, as was usual in the antique tents with coloured wooden pillars. Later on the ceilings were decorated with stars on a blue ground, probably in imitation of the starry sky, or with eagles, scarabs, the zodiac etc. As motives for coloured decorations as well as for plastics served the lotus flower, the attribute of Isis and the symbol of the germinating power of nature, nymphs, papyri, reed, branches of palms etc.

Just as conventional as the drawing was the selection of the colours, strong colours with distinctly marked mostly carved outlines were put side by side without any shades. The colours employed were red, blue, yellow, black, white, green, and brown. Sometimes they were applied to a black background, but generally a bright one was preferred in order to make the hieroglyphic characters more visible. Male persons were suggested in red-brown, female ones in yellow, the latter being considerably smaller. The Egyptians were so far advanced in their textile art, that they were capable of producing tissues in pronounced polychromy and even with figures in them. Besides, they managed masterfully the polychromy of glassy flux and pottery.

### Plate 3. Coloured Parts of Architecture.

Fig. 1. Capital with caulicles from the isle of Philae. XVIIIth dyn. (Prisse d'Avennes, *Histoire de l'Art Égyptien*.)—Fig. 2. Capital from the Dromos. First century B.C. (Max Baumgärtel, *Allg. Geschichte der bildenden Künste*.)—Figs. 3, 4. Decorations of mouldings. (Prisse d'Avennes.)—Fig. 5. Bundle-pillar at Karnak. Era of Touthmès III. XVIIIth dyn. (Prisse d'Avennes.)—Fig. 6. Pilaster from Thebes. XVIIIth dyn. (Prisse d'Avennes.)

### Plate 4. Ceiling-pieces and Wall-paintings.

(Prisse d'Avennes, *Histoire de l'Art Égyptien*.)

Figs. 1, 3. Ceiling-pieces from Memphis. XVIIIth dyn.—Figs. 2, 4, 5, 6, 12. Friezes of flowers from the necropolis of Thebes. XVIIIth–XXth dyn.—Figs. 7, 8. Friezes of flowers from tombs.—Fig. 9. Ceiling-piece from the necropolis of Thebes. XVIIIth dyn.—Fig. 10. Portrait of the Pharaoh Mienptah-Hotepimat. Necropolis of Thebes. XIXth dyn.—Fig. 11. Ceiling-piece from the necropolis of Thebes. XXth dyn.

## Plate 5. Architecture of the Rock-tombs of El Amarna.

(Griffith, Archaeological Survey of Egypt.)

Fig. 1. Painted column of the large hall of Tutu.—Fig. 2. King Parennefer and queen presenting themselves to the people from a balcony of the palace. XVIIIth dyn.—Figs. 3, 4. Ceiling-pieces from the hall of the tomb of Ay.

## Plate 6. Ornaments of Wood.

(Prisse d'Avennes, Histoire de l'Art Égyptien.)

Figs. 1, 4, 6, 8. Wooden pillars from Thebes. XVIIIth and XXth dyn.—Figs. 2, 3, 10, 11 Furniture from the necropolis of Thebes. XVIIIth and XXth dyn.—Figs. 5, 7, 9. Toilet-utensils of various ages.

## Plate 7. Tissues and Jewellery.

Figs. 1, 3, 23—25. Tissues and embroideries. (Prisse d'Avennes, Histoire de l'Art Égyptien.)—Figs. 2, 13, 18, 22. Tissues. (Fischbach, Ornamente der Gewebe.)—Figs. 4—10, 12, 14—17, 19—21. Jewellery of various ages. (Prisse d'Avennes.)—Fig. 11. Tissue. Time of Amenophis II 15th century B. C. (Anton Springer, Handbuch der Kunstgeschichte.)

## Plate 8. Egyptian Ceramics.

(Wallis, Egyptian ceramic Art.)

Fig. 1. Prisoner in bas-relief. Faïence. XXth dyn. Ghizeh Museum.—Fig. 2. Bowl. Faïence, XVIIIth dyn.—Fig. 3. Ring. Faïence. Ptolemaic period.—Fig. 4. Amulet. Middle Empire.—Fig. 5. Ushabti (sarcophagus). Faïence. H. 195 mm. Ghizeh Museum.—Fig. 6. Bowl. XIXth dyn. British Museum.—Fig. 7. Vase with cover. Terra-cotta. XIXth dyn.—Fig. 8. Cartouche of Amenhotep II. XVIIIth dyn.—Fig. 9. Amulet. Faïence. XXVth dyn.

## Plate 9. Egyptian Ceramics.

(Wallis, Egyptian ceramic Art.)

Fig. 1. Relief ornamentation of a chalice. Blue faïence. Found at Tunah. XXth dyn.—Fig. 2. Vase in pierced work. Blue faïence. Found in Upper Egypt. XVIIIth dyn. British Museum.—Fig. 3. Vase, to contain the mummy of an ibis. Terra-cotta. XXIIth dyn. Ghizeh Museum.—Fig. 4. Sistrum (a musical instrument). XXVIIth dyn.—Fig. 5. Silver vase. Ptolemaic period.—Fig. 6. Bowl. Green faïence. XXVIth dyn.—Fig. 7. Deep green glazed kohl-pot with the cartouche of the Royal Princess Mernub. XVIIIth dyn.

## The Babylonian-Assyrian Ornament.

According to the kind of material used in Babylonian-Assyrian architecture, this style necessarily must exhibit a polychromy quite different from those of the Egyptian and Greek architecture. The stonebuildings of the Egyptians and

Greeks would have been a sheer impossibility on the banks of the Euphrates, the distances being far too large to admit the conveyance of stones. That was the reason, why pillars and columns were almost never used in architecture, and if we in spite of that fact now and then find some, they surely consist of wood covered with metal. The walls of the buildings were nearly always composed of air-dried bricks. As plaster does not protect those walls sufficiently against the roughness of the weather, it was only natural that they were covered with a more solid material. For this purpose they used either plates of alabaster with reliefs or glazed earthen plates, the ornamentation of which opened a very large field for the polychromy. Floors also were paved with baked plates.

Similar to the Egyptian the Babylonian-Assyrian art abounded in conventional forms and therefore must at last necessarily become as lifeless as that style. Usually the figures are yellow on blue or white grounds. Green is only occasionally used for objects of lesser importance, black for details, red and white for ornaments. These colours sufficed to mark out especially the patterns of garments or purely decorative details. In the earlier works of Nimrud strong dark colours are preferred, blue, white and black, while in the era of Sargon predominates a pale blue with white, yellow and orange, whereby a more elegant effect is obtained.

## Plate 10. Glazed Tiles and Frescoes.

Fig. 1. Fresco. (Max Baumgärtel, *Allgem. Geschichte der bildenden Künste.*)—Fig. 2. Fresco in the palace of King Assurnâsirpol at Nimrud. (Georges Perrot et Charles Chipiez, *Histoire de l'Art dans l'Antiquité.*)—Fig. 3. Wall-decoration of glazed tiles at Nimrud. (Perrot et Chipiez.)—Figs. 4—6. Wall-decorations of glazed tiles from the wall of the harem at Khorsabad. (Perrot et Chipiez.)—Fig. 7. Similar decoration in the palace of king Assurnâsirpol at Nimrud. (Perrot et Chipiez.)—Fig. 8. Ornament of glazed tiles from the threshold of the palace at Kujundschik. (Perrot et Chipiez.)

## The Phoenician Ornament.

The Phoenicians were more merchants than artists, therefore it is obvious that they could not develop an original national art. On their bold voyages through all the then known world they spread the Oriental works of applied art wherever they landed, so that they became most important as mediators. The impulses, which the Archaic-Greek art received from the Oriental art, are especially due to the Phoenicians. In addition to that, they have brought about a flourishing industry, the products of which they have propagated together with Egyptian, Babylonian and Assyrian works. Thereby they have had a widespread influence on the development of classical art. Thus the penetration of

Etruscan art with Greek elements is mainly their work. Above all was famous their glass-work, which resembled the Egyptian one, also their metal-work, especially their flat silver bowls with embossed and engraved representations arranged in zones. They are also said to have first used purple colour in dyer's art. Their own works of art exhibit a mixture of Egyptian and Babylonian elements, which, however, they had not the skill to shape into a national style.

### Plate 11. Glass-work and Earthenware.

(Georges Perrot et Charles Chipiez, *Histoire de l'Art dans l'Antiquité*.)

Figs. 1, 2, 5, 12. Glazed vessels from Camiro, isle of Rhodes.—Figs. 3, 4, 8, 10, 11, 13, 14. Phoenician glass-vessels. Crean collection.—Fig. 6. Cyprian vase. Eugène Piot collection.—Fig. 7. Bust from Cyprus. Louvre. Fig. 9. Phoenician necklaces. Louvre.

## The Persian Ornament.

In the remains of Persian art there are not very many national elements to be found. The Persians brought artisans, mostly prisoners of war, from the conquered countries into their chief towns, where they had to accomplish those magnificent buildings planned by the Persian kings. It is obvious that in this way especially Egyptian, Babylonian-Assyrian and Greek elements must creep in, which at last drove the national art, not very important in itself, into the background. While at Persepolis reliefs predominated, at Susa wall-coverings of glazed tiles were preferred, the habit probably being taken from Assyria and Babylonia. Known in this technique is a frieze of stalking lions between rich bands of ornaments, resembling the well known lion-frieze of Babylon, and a renowned frieze of striding warriors, five by five between two pillars, on a bluish green ground. Here the artist has dropped the Egyptian mode of representation, half complete view, half profile, and the garments show a freer drape. In spite of its monotony this long frieze makes an imposing impression. These works make manifest a great technical ability and a still more flourishing sense of colours than the Babylonian-Assyrian works. Moreover, the figures are correctly arranged. But it is not impossible, that this art may have sprung up in Susa itself, as the district of Susania has had an earlier culture than that of Persi. The fact that there recently have been found fragments of columns and glazed tiles from the Alamitic period of Susa seems to justify this opinion.

### Plate 12. Ornaments of glazed Tiles.

(Georges Perrot et Charles Chipiez, *Histoire de l'Art dans l'Antiquité*.)

Fig. 1. Frieze of archers. Glazed tiles. Susa.—Fig. 2. Frieze of lions. Glazed tiles. Susa.

# The Aegean Ornament.

## Aegean ceramic Art.

In Aegean art the products of ceramics are especially noteworthy, which in the isle of Crete had reached a wonderfully high state of development. The polychromic Aegean art is scarcely inferior to the Greek one. The oldest specimens of the neolithic period are fragments of black burnt clay with simple engraved figures, often filled up with a white material. Curvilinear ornaments are altogether wanting; among the rectilinear ones triangles occur most frequently with lines inside, crooked bands, comb-patterns etc. The period following the epoch named above has been called early Cretan or early Minoic period (derived from Minos king of Crete) and is divided into three groups, by others into two: the first and the second early Minoic style. The works belonging to the first group are painted over with black colour, the objects, engraved in earlier periods, being painted in white; besides there are vessels with shining black bands on the ground of clay. It seems that the potter's kiln was known already, but not the potter's wheel. In the second group predominate patterns of lines curved as far as to the spiral-line, done in a very durable white. Some of the vessels belonging to this group apparently have been formed by means of the potter's wheel.

Polychromy appears in Cretan art in the earlier middle Minoic period; it employs besides the traditional white a pale red, crimson, and orange for the purpose of rendering the black ground of varnish more agreeable to the eye. Some of the vessels are also decorated with ornaments, which are put on a polished bright ground of clay, sometimes, like those of Grecian make, with engraved outlines. We must regard this period as a time of transition, which is partly corresponding to the early Minoic and neolithic period, partly brings new ornaments, not perfectly developed till the late Minoic period. This period makes itself conspicuous by a fresh and vivid naturalism. Here we also come across relief-like ornaments. Either the surface of the vessel is divided into several horizontal or vertical sections, equal in size, which are all uniformly filled with ornaments, or it is decorated by a broad strip round the vessel.

The products of the later middle Minoic period (Kamaraes-period) are distinguished by an original polychromic opalescence of the colours white, red and yellow on a shining black ground of varnish. Here are always the same colours employed without considering whether they are suited to the object represented or not. The form of the vessels means, compared with the older ones, a conspicuous further development and refinement.

A conventional vegetal ornamentation with richly interlaced vegetal forms takes the place of the linear ornamentation of former epochs. The chief aim of the artists of this period was more an elaborate system of coloured lines

than the imitation of nature; they neglected the drawing for the sake of the decorative and polychromic effect. In this period the natural object is worked over to such a degree, that vegetal motives become linear.

The development begun in former times having reached the highest summit of perfection, there comes a great change in the whole of Cretan art by substituting monochromy for polychromy. Like in Japanese art they begin to represent a quick impression in a lively but rather formless drawing without exact details. The drawings become life-like and striking, wanting in details, but representing by way of imitation the characteristic phases of movements. While in former periods the brilliancy of colours was the chief object of the artist, in monochromy the drawing itself became the most important feature. It cannot be denied that Egyptian motives have been brought into Cretan art, but that is by no means an imitation, as those foreign motives are perfectly and masterfully absorbed by the Cretan art.

A new element enters Cretan art in the first period of the late Minoic style by the introduction of the maritime fauna and flora. In the beginning we find a number of animals and plants drawn from nature in a strict naturalistic manner painted on the vessels; but later on those objects were copied from former works. Hereby the naturalistic motive became more and more subordinate, so that at last the manner of execution made it impossible to make out the original model. The only object recognizable was the cuttle-fish, erroneously called polyp, probably *octopus vulgaris*. Other models may have been the nautilus, a sea-slug, and among fish especially the dolphin, which is well known to all inhabitants of the coast on account of its cheerful nature. As ornaments of lesser importance occur corals and among plants several kinds of sea-weed.

Besides those naturalistic ornaments we come across paintings of a more conventional kind, mostly schematic representations of vegetal origin, e. g. the continuous spiral line arranged in various patterns. The arrangement of the sea-animals is the same in most of the ornaments, the painting always representing the bottom of the sea.

Recent excavations on the continent have brought to light objects of another period of art coinciding with the late Minoic period, varnished vessels from the tombs of Mycenae, which form a great contrast to the pale-painted vessels then used on the continent. The naturalistic Cretian style has spread itself even over the isles in the vicinity of Crete. Scientific studies have proved that the age of the tombs of Mycenae is coincident with that of the XVIIIth dynasty in Egypt, and that there has been communication with this country.

The second period of the late Minoic style is the so-called palace-style, in which a blackish varnish is painted over the thin covering of the vessels. The ornaments are rhythmically distributed all over the surfaces of the vessels, but without filling every empty space with an ornament. Though this style



shows certain slight symptoms of decline in consequence of the exaggerated schematism, it nevertheless stands on the highest pitch of Cretan art.

Cretan ceramic art was unparalleled compared with the vessels of the continent and the Greek isles, which were painted in subdued colours. It has created that wonderful Kamares-style with its brilliant chord of colours and its unsurpassed workmanship at a time, when the artists of the continent and the neighbouring isles still painted simple patterns on technically inferior vessels. Later on, when the Cretan palaces were destroyed, Cretan art as a subordinate part of the whole was absorbed by the unity of the Cretan-Mycenaean culture.

### Plate 13. Aegean ceramic Art.

Fig. 1. Vase from Phaestos (Monumenti antichi della Reale Accademia dei Lincei.)—Figs. 2, 5, 8, 10. Vessels from the necropolis of Hagia Tirada (Kamares-period.) (Monumenti antichi.)—Figs. 3, 7. Vases from Zakeo in Crete. Bronze period. (Journal of Hellenic Studies. 1913.)—Fig. 4. Vessel from Knossos (Journal of Hellenic Studies. 1913.)—Fig. 6. Vessel from Mochlos. (Seager, Explorations in the Island of Mochlos.)—Fig. 9, 12. Earthenware of the Middle Cretan (Middle Minoic) period from the earlier palace in Knossos. (The Annual of the British School at Athens, 1902/3.)—Fig. 11. Primitive Cretan vessel. (Journal of Hell. Studies. 1911.)—Fig. 13. Vessel from the isle of Mochlos. (Seager.)

### Plate 14. Cretan ceramic Art.

Figs. 1, 3, 4, 9. Vessels. Kamares-period. (Journal of Hellenic Studies.)—Figs. 2, 5, 6, 8. Vessels. Late Minoic style. (Boyd-Hawes, Gurnia.)—Figs. 7, 10. Middle Minoic vessels from Phaestos. (Monumenti antichi.)

Up to a few years ago the opinion was in vogue that the beginning of the history of Grecian art must be dated from the time of the immigration of the Dorians in Greece, and that Homer's Iliad and Odyssey must be looked upon as products of the poet's imagination. One contented oneself with the supposition that there must have been a prehistoric development of Greek art. It was the task of Heinrich Schliemann to reveal a new world of art, which harmonized in all details with Homer's statements. Schliemann began, inspired by the lecture of Homeric myths, in 1868 on the site of Troy the work of his life, which should prove so profitable to the history of art. After he had found a number of fragments there, (by mistake called the Treasure of Priam), which he bestowed on the Berlin Museum, he went to Mycenae, where he discovered five perfectly intact tombs of princes, the contents of which opened a new world of art with a characteristic ornamentation. For the architectonic part of the excavations he had secured the assistance of Dr. Dörpfeld, and it was he, who ascertained the correctness of Homer's statements. Later on the two explorers went again to the site of Troy, where they proved by comparison

with Mycenaean art, that the Troy of Homer must have been the sixth stratum of all the strata found there.

The next problem to be solved was the necessity of ascertaining the original place of this characteristic period of art, and after there had been found similar objects in other parts of Greece, the whole attention of everybody was directed to the isle of Crete.

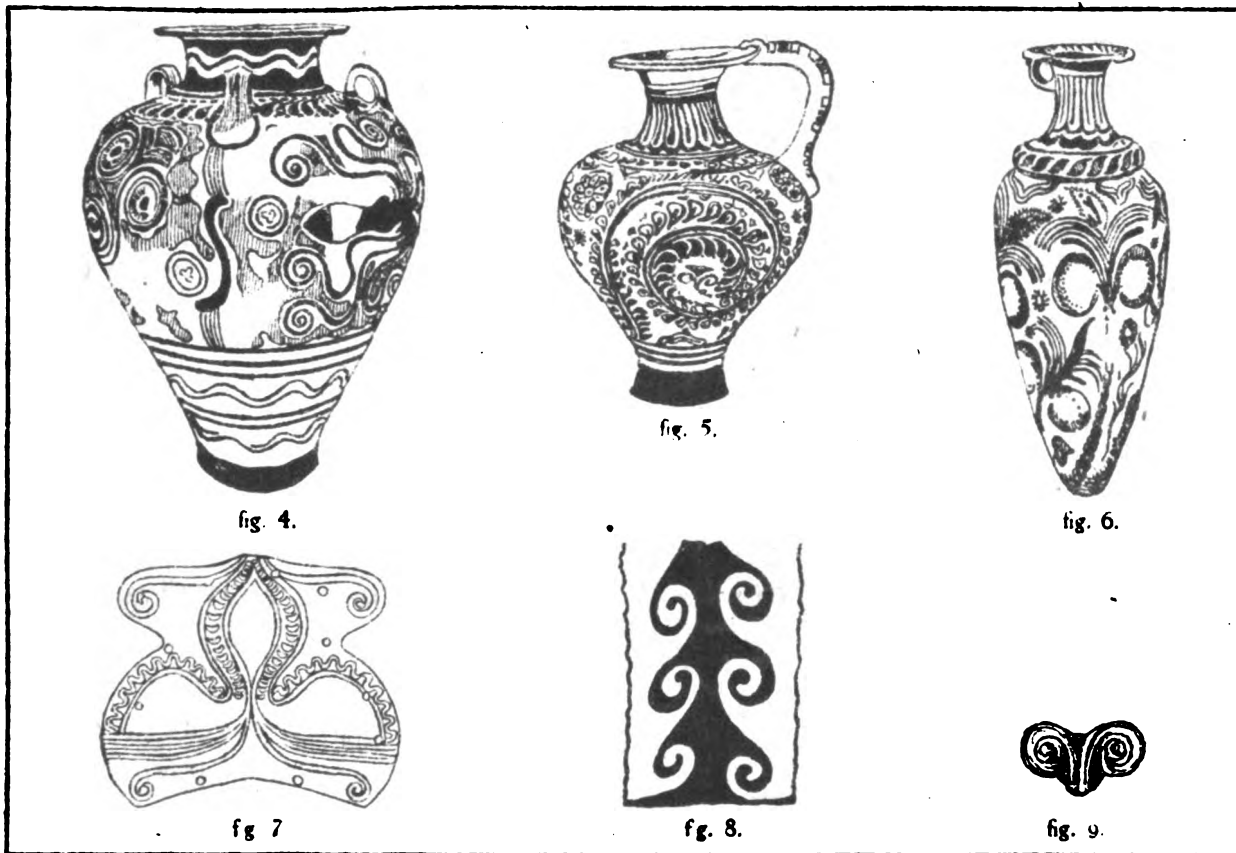
Schliemann died early, but he was soon replaced by Arthur Evans, who began his work in Knossos, near the capital Candia, and whose explorations were continued by the British Archaeologic Institute in the east of the isle, by Italian scholars at Phaestos and by Richard B. Seager in the isle of Mochlos. Thus were found in Crete three palaces of sovereigns, some smaller estates, three town-like settlements, several antique centres of the culture of Zeus still without temples, and spacious necropolises. The great heaps of ruins they had to remove permit the conclusion that there has been more than a thousand year's continuous development from stone age up to a condition of culture which in its variety is on the same level with those of Egypt and Babylonia. Even several early Cretan written characters have been found, the deciphering of which is still eagerly looked forward to. In the meanwhile we are compelled to reconstruct the history of that epoch only by the forms of ornamentation. But even those very forms show with positiveness the existence of a homogeneous art in Greece, Crete and the neighbouring isles.

There is especially one characteristic peculiarity which strikes the spectator in this "Aegean art", the use of animal and vegetal objects of the sea as models for ornamentation, in pure naturalism at first, then in rigid and lifeless forms, the origin of which at last is only to be found by comparing studies. Besides sea-plants and corals there were used oysters, sea-stars, nautili, polyps, and later on fishes and birds. This feature of ornamentation is easily to be explained in a race whose mode of life and activity was in constant and intimate contact with the sea; it is to be considered as an independent autochthonous part of Aegean art, which does not occur in the Egyptian and Babylonian forms of decoration.

Another kind of ornament which we do not find in the earlier Egyptian or Babylonian decorations is the spiral-line, the leading motive of Cretan ornamentation. It is not altogether impossible that the volute of the prehistoric European art may be taken from Aegean ornamentation, as many-sided business-connexions have existed at remote periods, provided that it has not been developed independently out of natural objects. In considering e. g. the alterations and variations, which the polyp has undergone in the Aegean ornaments, we involuntarily raise the question whether perhaps the volute may be the imitation of a rolled up arm of a polyp. (Figs. 4-8.) The golden link of a necklace represented in fig. 9 has surely developed itself after the model of the head of a polyp and is perhaps even the original model of the Ionic capital,

which has been employed in Phoenician and Egyptian ornamentation long before the development of the Ionic art.

There is no doubt that Aegean art in spite of its being a characteristic one has been influenced by Oriental and Egyptian elements, and this opinion is strengthened by the mutual geographical situation. So have been found in Crete Egyptian works of art signed with the royal seal of the XIIIth dynasty (about



2200 B. C.), and at the entrance of the large oasis of El Fayum in an early Egyptian settlement of the 16th century B. C. early Cretan painted earthenware. The time of the Aegean epoch of art is probably the middle of the third to the middle of the second millennium B. C., its cradle Crete or Caria. Later on the Cretan art has probably been carried over to the continent.

### Aegean Fresco-painting.

Up to a short time ago the lion-gate at Mycenae was considered the single remain of a period of art long ago sunk into oblivion. But the last few decades have given us a perfect idea of Aegean culture of art. Now we are able to see that the Aegean isles and the neighbouring coasts in the second millennium B. C. possessed a culture like the Egyptian and Babylonian ones, while Greece itself was still in a state of barbarism. The cradle of this art is doubtless the

isle of Crete, whose king Minos, previously thought to be a mythical figure, now has gained a real historical shape. Though the scholars have as yet not been successful in deciphering the found inscriptions, there is no doubt that the isle has not been inhabited by one tribe, but by several ones. The very first race, at any rate, was not of Greek origin. It is supposed that the Achaeans at about 1400 destroyed the old palaces and drove the original inhabitants to the east of the isle. The invaders made themselves comfortable and built castles, and these in their turn were destroyed by the Dorians in the 13th century B. C., and so Achaean art found a premature end. But of course many elements of it have passed into the historic Greek era and there have undergone a new development.

The chief colours of Aegean fresco-painting are white, red, yellow, blue, and black, all other shades as green, light blue, light red, brown, violet, grey having only an occasional and subordinate importance. Like in Egyptian art the men are painted red, the women yellow. The original red hue of the wall has become the background of the picture; this manner of painting has lasted rather a long time in Crete. Later on the predilection for contrasts of colours prevails. In most cases red and white, yellow and blue are put together, and the ornaments are usually painted red on yellow, black on blue grounds; sometimes they are employed reversely. Ornaments on white backgrounds are mostly red, on light red backgrounds black.

In the paintings of Knossos is to be recognized a certain canon of colours, which is the same in all periods of Mycenaean art. Every decorated wall has a specially marked basement, while the rest of the surface is delimited above and below by horizontal bands of ornaments or is divided into several friezes. Here the horizontal wooden beams seem to have played an important part, vertical divisions in the surface of the wall are altogether wanting, even in the corners. A single wall does not form a chromatical artistic whole, but only an accidental part of the decoration of the whole room. This is a peculiarity of Cretan-Mycenaean wall-painting, which tends towards the utilization of the artistic advantages of the rectangular building for the forming of the interior and by way of combining the surfaces, which are too large to be overlooked at a glance, drops the possibility of homogeneous decoration and pictorial formation. It composes so to say only with regard to top and bottom, but not with regard to right and left. That is the reason why there are no real pictures in mural paintings. The upper part of the wall consists of pictorial friezes and bands of ornaments. Most of the found friezes show figures in full natural size and have above and below a small white strip so as to divide the coloured spaces from each other. The ornament appears in Cretan-Mycenaean art of painting merely as a decorative band in the function of a frame for the surfaces. The constructive origin of this system of using the parts of the wall puts the supposition of an original decoration of the walls by textile materials

out of the question, the more as Cretan textile ornamentation may easily be reconstructed out of the remains of draped figures in full size. It is a pure ornamentation of surfaces with scales, intertwined wreaths, quarrels, zigzags etc. Of some importance, however, is the influence of mural painting on ceramic art, which latter does not only copy motives of fresco-painting, but imitates the whole system of decoration. Even floors and ceilings were decorated with fresco-paintings.

## Plate 15. Mycenaean Frescoes.

(Kaiserl. deutsches Archäologisches Institut in Athen, Tiryns, bearbeitet von Gerhardt Rodenwaldt, Rudolf Haekel und Noel Haton.)

Fig. 1. Reconstruction of a figure of a frieze in the later palace of Tiryns.—Fig. 2. Reconstruction of a group of chariots in the same palace.—Fig. 3. Frieze of shields in the earlier palace of Tiryns.—Fig. 4. Frieze of spirals in the same palace.

## Plate 16. Aegean applied Art.

Fig. 1. Sarcophagus from Haghia Tirada. (Monumenti antichi.)—Figs. 2, 4, 6. Daggers of bronze from Mycenae. (Springer, Handbuch der Kunstgesch.)—Figs. 3, 5. Adornments of gold from Mochlos. (Seager.)—Fig. 7. Necklace from Mochlos. (Seager.)—Figs. 8, 9, 10. Objects of glazed stone from Mochlos. (Seager.)—Fig. 11, 12, 13. Painted floors from Tiryns. (Tiryns, bearbeitet von G. Rodenwaldt etc.)

## The Greek Ornament.

### The Polychromy of the antique Architecture.

The rejoicing in the colours of the nature of the south, where primitive men lived, may at the dawn of history have been the impulse of applying those colours to the works of men. Other reasons were the necessity of protecting materials liable to decay by means of a solid covering and the desire to make inferior materials appear more valuable. The nearer man is to nature, the richer in colours are his works and vice versa, the higher his culture, the poorer the colours of his products. It is a pity nowadays, that we have reached a point of monotony of colours in regard to architecture, applied art, clothing etc., which is hardly to be surpassed. Even if we admit, that the coloration sometimes was too glaring, which is probably owing to the fact, that subdued colours were unknown, the other extreme, into which our modern architecture has fallen, an absolute monotony of colours, is still less justifiable. The only apology we could offer would be that we in our northern climates have not the rich colours of the southern nature as a model. On the other hand, one should think that

our mostly cloudy sky should induce us to employ rich colours in architecture, so as to produce an opposition to its saddening influence. But just the contrary is the case. Our modern architecture is abounding in endless rows of grey houses under a grey sky. It is obvious that this grey in grey must have a depressing influence on the human disposition. This is proved by the fact that we are beginning to decorate our balconies with fresh flowers, but that is, of course, possible only during the few summer months. Why do we not try to interrupt that monotonous grey of the façades by architectonic employment of polychromy? There is no danger that the cost would be enormously raised as our modern builder knows so many simple and cheap methods of the polychromic formation of façades.

The polychromy of the antique architecture has its origin in the Orient, where the exuberant nature induced man to apply its richness of colours to his own creations. Assyrians, Babylonians and Persians amply availed themselves of the polychromy in their buildings, the air-dried bricks of which they covered with coloured tiles or plates of clay in order to protect the walls against the decaying influences of the weather, and so combined the useful with the beautiful. Those nations also have employed fresco-painting on the plaster of the walls.

Employment of polychromy we find perhaps on the largest scale in the architecture of Egypt, where the interior walls and relief-ornaments of temples, pyramids, tombs, palaces etc. were decorated with efficacious and unmixed colours. To the Egyptian his temple meant the world; its columns represented gigantic lotus flowers, papyri or palms and were painted in next to natural colours to produce the impression of a forest. Consequently the ceiling was blue with inserted yellow stars indicating the sky.

There is reason to believe that the Greeks took the form as well as the colours from the Orientals, especially from the Egyptians. But in spite of the fact that several ancient writers, Vitruvius among the rest, speak of the painting of the Greek temples, Stuart's statement, that the Greek edifices in the main had been painted, was generally doubted in 1762, and a fierce contest ensued between the followers of each of the two opinions. It was Hittorf, who in 1851 in his work "*Restitution du temple d'Empédocle ou l'Architecture polychrome chez les Grecs*" clearly proved the existence of polychromy on the Greek monumental edifices. By way of collecting numerous finds of different times and places he was at last successful in ascertaining the type of the polychrome Greek temple. Another representative of the opinion that Greek architecture had used polychromy was Gottfried Semper, who, however, overshot the mark by declaring that all the walls of the Grecian temple without exception had been painted over.

Thus, strengthened by the observation of excavated remains, gradually the conviction was gaining ground, that the Greek temples at least partly had been painted. The yellowish tint of the marble, however, which has been said to be

painting, certainly must be ascribed to the influence of the weather or to the damage by dissolved ferric oxide. This is proved by the fact, that all objects of not ferriferous marble have remained perfectly white, and that marble very often shows different colours on the weather-side and on the sunny side. Further, there exists a kind of lichen which produces an auburn patina on marble walls. For all these reasons we may believe that the plane surfaces of the temples have not been painted, but only perhaps covered with a sort of caustic wax for better preservation, while single parts of architecture, especially such which have been of wood in the most ancient times, have been painted. An incontrovertible proof of the polychromy of the Greek temples we have in the so-called Persian rubbish or Persian wreckage, which is commented upon in the work "*Antike Denkmäler, herausgegeben vom deutschen archäologischen Institut.*" But the most striking proofs the newest discoveries at Olympia afford, which in spite of their belonging to different periods of the Doric epoch give evidence to a certain system of principles of polychromy; for the regular occurrence of the same colours on corresponding parts of architecture accounts for a conventional execution of the polychromy in Greek architecture.

There is no doubt, as mentioned above, that the Greeks have taken form as well as colour from the Egyptians, the latter, however, as a means of concealing the inferiority of the material employed and of improving the appearance of the buildings by painting in combination with sculpture. On the other hand we must not forget, that in the brilliant light of the Greek landscape, which was rich in colours itself, large masses of marble in their natural colour would have hurt the eye, so that the Greeks probably would have been led to polychromy even without the Egyptian example.

In general all details projecting from the background were painted, then the background of the reliefs itself, whereas the walls of the cella, the columns, epistyles and mouldings had the natural hue of the stone, which but rarely was covered with a sort of wax varnish. Of the Doric temple the abacus of the triglyph and the coping of the architrave were always painted, while that was not regularly the case with metopes without reliefs and the oval mouldings of the Doric column. In case the parts were not too much projecting and the annulets were painted red, the oval mouldings were ornamented by scale or leaf-ornaments. The front of the epistyle was sometimes decorated with a continuous ornamentation of tendrils or gold plates or with gilt inscriptions. Below triglyphs were fastened fillets with falling gilt drops and little green palmettes. The crowning band exhibited a delicate red or green Maeander, the triglyphs a deep azure tone. The figures and ornaments of the gable were painted in the natural colours, as was usual in sculpture works, on brown-red, blue or yellowish backgrounds. The cymae were decorated with friezes of golden leaves, the smaller parts of the oval mouldings with heart-shaped leaves, edged with red lines and furnished with ribs, on a green background. The lion's heads

of the cyma, the ornaments of the acroteria and the antefixes were either painted with deep colours or gilt.

Usually the ceiling of the portico had the same colour as the walls, the edgings of the coffers of the ceiling had gilt chaplets on blue or green grounds, the horizontal surfaces a design of red Maeanders, the fillets of the oval mouldings projecting coloured leaves or egg-mouldings, the background itself golden stars on blue ground.

The earliest Greek temples, e. g. those at Assos, Pergamon, Aegina etc., being built of porous limestone or tufaceous trachyte, it was impossible to apply the colour directly to the stone. It was necessary to prepare a basis of a fine white stucco, which on some works is in a good state of preservation even now. But being rather frequently in need of repair, it was substituted by a better material, namely marble, which, as it required no special preparation for painting, soon became the exclusive material of Greek architecture.

There were two modes of applying the colours to the ground of stucco, *al fresco* and *al secco*. All was smooth and carefully worked, and the junctures were so well flushed up that they were hardly visible; a suggestion of junctures by colour does not occur in Greek architecture. Especially the gilt surfaces were most carefully planed and polished. In the oldest method the outlines were engraved into the marble, or the ornament was suggested with the chisel and the background made rough for a better adherence of the colour. Sometimes the ornaments were outlined with the brush on the smooth stone and afterwards filled in with colour, whereas projecting ornaments were directly painted. The blue and green colours were prepared with wax, but did not stick very firmly to the stone, while red always soaked deep into it. According to Pliny's account there have existed two kinds of caustic painting: the ivory painting and the ship's painting. In the first class the background round the figures was chiseled out and a covering of colour was applied by means of a slice, like *email encloisonné*, while in the latter class the colours were liquefied by heat, laid on with a brush and rubbed smooth with an iron tool.

In Greek polychromy the colours were put side by side unbroken, that is to say, only unmixed colours without any shades were used, blue, red, green, yellow and gold, for terra-cotta vessels also brown and black, for the parts representing flesh pink, for drapery light green and violet, mostly pastos, but also as transparent colours. The use of deep colours, probably an imitation of the Egyptian polychromy, is accounted for by the fact that most of the painted parts were at a considerable height and would otherwise hardly have produced any effect at all.

Not only the Doric, but also the Ionic and Corinthian buildings of the earlier periods were partly painted, as finds at Olympia and in the Acropolis at Athens have proved. Even that whole Corinthian capitals have been painted



all over has been confirmed. At Pompeii too the capitals of stucco were as a rule painted. The employment of gold, however, has not been indisputably proved.

There is no evidence of a Roman polychromy similar to the Grecian one. The Romans tried to attain a certain polychromy by the use of differently coloured materials in combination with bronze. The same principle was now and then applied in Greek sculptor's art, but most of their works were of marble and painted. Special pains were taken to make the best of the transparency of the marble combined with the application of transparent colours for the purpose of a lively representation of the skin. Marble figures in polychromic rooms were also painted, but there is no evidence for their being painted all over.

At Pompeii the painting of statues also seems to have been customary, as a wall-painting from there shows (fig. 10), representing a female artist, who paints a herma according to a sketch lying before her. Those painted pieces of sculpture are to be traced as far as to the Imperial



fig. 10.

Era and into it, sometimes indirectly by the fact, that certain parts are wanting which must have been suggested by painting. Especially in the Naples Museum are numerous painted works of sculpture from Pompeii. The parts representing flesh seem to have had no colours, only a varnish of oil and wax was applied to them in order to obtain an aspect like that of the human skin; but the eyes were painted, analogous to the setting in of a special material into statues of bronze.

In Greek architecture the flesh-parts were simply made of ivory, the drapery of gold or bronze. It is very likely, by the way, that the classical art may have taken the painting of sculptural works from Egypt. E. g., there has been found a wall-painting which represents Euté, the head sculptor of the queen mother Tey; painting the statue of the princess Beekt'eten in the tomb of the administrator of Tey. (Fig. 11.)

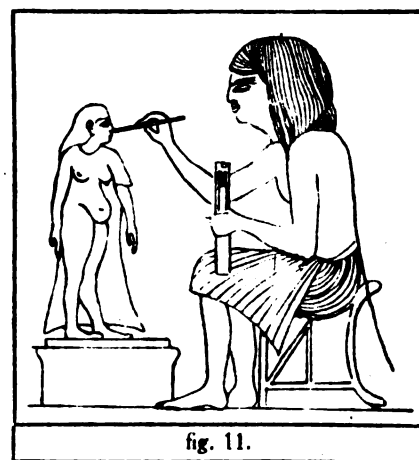


fig. 11.

Similar to the Greek temples were painted the parts of the Etruscan temple, with figurative wall-paintings on the surfaces inside and outside, which are described by Pliny, who has personally seen them. White was frequently used. As far as evidence proves the whole timber-work of the temple has been

covered with colour, partly to conceal the roughness of the material and partly to protect the wood against the influence of the weather.

### Plate 17. Painted Stone=ornaments.

Figs. 1—6. Fragments of archaic architecture from the Acropolis at Athens. (Wiegand, *Die archaische Porosarchitektur der Akropolis in Athen.*)—Fig. 7. Frieze of vine-leaves on the Alexander's sarcophagus at Sidon. (Winter, *Der Alexandersarkophag aus Sidon.*)

### Plate 18. Greek Marble=works.

Figs. 1, 3. Cymae of the temple of Athene at Athens. (Archäologische Gesellschaft, *Antike Denkmäler.*)—Figs. 2, 4. Cymae of the same temple. (Antike Denkmäler.)—Fig. 5. Cyma of the Parthenon at Athens. (Fenger, *Dorische Polychromie.*)—Fig. 6. Ornament of the temple of Theseus at Athens. (Uhde, *Die Architekturformen des klassischen Altertums.*)—Figs. 7, 8. Ornaments of the Propylaea at Athens. (Uhde.)—Figs. 9, 11. Painted capitals Athens. (Antike Denkmäler.)—Fig. 10. Column and entablature of a round building at Epidaurus. (Antike Denkmäler.)—Fig. 12. Ornament of the mausoleum at Halicarnassus.—Figs. 13, 14. Cymae of the Acropolis at Athens. Remote period, similar to Egyptian workmanship. (Antike Denkmäler.)

### Plate 19. Greek Marble=works.

Fig. 1. Cyma of the Phigalia Temple. (Fenger, *Die dorische Polychromie.*)—Fig. 2. Antefix from the Parthenon at Athens. (Fenger.)—Fig. 3. Cyma of the Propylaea at Athens. (Fenger.)—Figs. 4, 5. Painted egg-mouldings from the Acropolis at Athens. (Hittorf, *Restitution du temple d'Empédocle.*)—Fig. 6. Painted moulding from the Acropolis at Athens. (Hittorf.)—Fig. 7. Torus from the Erechtheum at Athens. (Hittorf.)—Fig. 8. Female torso from the Acropolis at Athens. (Hittorf.)—Fig. 9. Cyma of the Tholi at Epidaurus.—Fig. 10. Antefix from Phiglia. (Fenger.)—Fig. 11. Capital from the temple of Themis at Rhamnus. (Fenger.)—Fig. 12. Capital from the Parthenon at Athens.—Figs. 13, 14, 15. Details of the drapery in fig. 8.

### Plate 20. Parts of Architecture restored in Colours.

Fig. 1. Capital from the northern hall of the Erechtheum, Athens. (Dr. Josef Durm, *Die Baukunst der Griechen.*)—Fig. 2. Stela of the Aristeum, Athens. (Fenger, *Die dorische Polychromie.*)—Fig. 3. Stela from Venice. (Fenger.)—Figs. 4, 5. Capitals of painted marble from the Parthenon, Athens. (Hittorf, *Architecture polychrome chez les Grecs.*)—Fig. 6. Attic stela. (Fenger.)—Fig. 7. Antefix from Phiglia. (Fenger.)—Fig. 8. Painted Doric capital. (Durm, *Die Baukunst der Griechen.*)—Fig. 9. Antefix of the Propylaea, Athens. (Fenger.)

### Plate 21. Polychromic Parts of Architecture.

Fig. 1. Capital from the temple of Hera at Selinunt. (Fenger, *Die dorische Polychromie.*)—Fig. 2. Capital from the temple of Nike-Apteros, Athens. (Fenger.)—Fig. 3. Capital from the Propylaea, Athens. (Fenger.)—Fig. 4. Metope of burnt clay, found at Phallazalle. (Hittorf et Zanth, *Architecture antique de la Sicile ou recueil des plus intéressants monuments d'architecture des villes et des lieux les plus remarquables de la Sicile ancienne.*)—Figs. 5, 6. Mouldings from the temples of the Acropolis at Selinunt. (Hittorf et Zanth.)—Fig. 7. Coffor of the ceiling of the Erechtheum at Athens. (von Quast, *Das Erechtheion zu Athen.*)—Fig. 8. Coffor of the ceiling of the Erechtheum at Athens. (Durm, *Die Baukunst der Griechen.*)

## The polychromic Greek Terra-cotta.

The annealed colours of the antique terra-cotta are in a better state of preservation than those of the painted stones. In regions where marble was rare, especially at Olympia and in Sicily, very often terra-cotta was used for the covering of the wooden or stone cornices of the roofs.

The type of the Doric temple doubtless has developed out of the wooden structure. It was but natural to cover the wooden parts with terra-cotta as a protection against the influence of the weather, especially those of the coping which were very much exposed to it, while the ends of the beams and the triglyphs were protected by their covering of colours and by the projecting mouldings. The copings were given a protection by putting three-edged cases of burnt clay over the modillions and nailing them to the rafters. But as the projection of the mouldings was not sufficient to protect the columns against the weather, they began to use stone as building material, in the beginning, however, only for the columns. But even later on, when the whole temple was constructed of stone, they continued the customary manner of covering and nailed the objects to the limestone as formerly to the wood. It was not till experience had taught them that good stucco was as secure a means of preservation, that they substituted the terra-cotta plates by painted plaster. In the earliest times also the tiles for the roof had a covering of black, brown or red varnish. (Fig. 12.) Larger pieces were often made of impure clay and then covered with pure clay, especially the pieces for coverings. In the sixth and fifth centuries B. C. the terra-cotta was burnt lightly, later on stronger. The great variety of tiles found at Olympia permits the conclusion that they had been manufactured in various places.

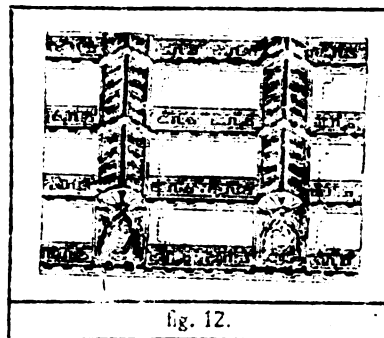


fig. 12.

The following pieces are distinguishable: the casing with its cornice and the crowning in form of a cyma or a row of tiles. These parts were often combined, but the special ornamentation of each part proves that the builders were aware of the tectonic signification of each piece. In the use of this ornamentation local particularities and a certain chronological development are to be discerned. The characteristic ornament of the casings is a design of intertwined bands, generally double, rarely single, edged with astragals, resembling the tori of the columns. The eyes, round which these bands are wound, are not arranged diagonally, but vertically; the consequence is that at the touching-lines of two bands empty wedges are formed, which are filled in with decorative palm-leaves, while in other cases the bands cover each other like wreaths without leaving empty spaces. The same reason accounts for those peculiar lotus flowers between the spiral ornaments of the marble ceiling discovered by

Dr. Schliemann in the Tholus of Orchomenos. The heights of the single or double ornaments were regulated by the heights of the decorated surfaces. The astragals edging the surfaces and those of the cymae are painted either with horizontal or transversal band-ornaments or, as at Selinunt, with scale-ornaments; the bases of the casings are decorated with coloured strips, triangles, rectangles, meander patterns etc. On the tiles at the gutter, band-ornaments are mostly to be noticed, further ornaments of rosettes and waving lines, later on solely meanders.

The visible lower surfaces of the roof-tiles were painted or decorated with meander ornaments. The crownings of the roofs were formed by cymae running all round the building or by a certain system of tiles. The horizontal line of the coping was interrupted by lion's heads and acroteria for the sake of an efficacious aspect. The formation of the cymae in Greece is simpler and more uniformly developed than in Sicily; it uses mostly anthemion ornaments.

The earlier terra-cottas have a subdued shining brownish black or brown-red varnish on all exterior surfaces. On this varnish the various opaque colours, mostly pale orange, white, brown-red, and violet, are painted; that is the reason why they keep so badly. Characteristic features of these terra-cottas are their heavy plastic forms and their simply constructed geometrical designs, as intertwined bands, rosettes, zigzags, semicircular leaves etc. The designs were engraved by means of a slice or a pair of compasses and filled in with colour. The later execution is similar, but it proceeds from geometrical to freer forms. Instead of the dark ground of varnish we find here a light yellow tone either as background for the other colours or painted between them. The design invariably shows a rhythmic succession of two dark tones, brownish black and red in several shades. In order to get a smooth surface the object was covered with a fine coating of clay, into which the design was carved. But in this period, which begins in the fifth century B. C., the plastic art is much more inferior to that in the earlier one. The terra-cottas, being covered with a coat of clay, were painted and, after the colour had soaked in, burnt; it occurred but seldom that ready fired pieces were painted and afterwards burnt for the second time.

## Plate 22. Painted Terra-cottas.

Fig. 1. Ornament of terra-cotta from the treasure-house at Olympia. (Dörpfeld, *Über die Verwendung von Terrakotten am Geison und Dache der griechischen Bauwerke.*)—Fig. 2. Antefix from the Acropolis at Athens. (Hittorf, *Restitution du temple d'Empédocle.*)—Figs. 3, 11. Coverings of cornices from the Acropolis at Athens. Terra-cotta. (Hittorf.)—Figs. 4, 6. Ornaments of terra-cotta for the covering of wooden beams. From Metapont. (Hittorf.)—Fig. 5. Covering of the coping. Palermo Museum. (Dörpfeld.)—Fig. 7. Covering of the coping. From Selinunt. (Dörpfeld.)—Fig. 8. Ornament of terra-cotta. From Selinunt. (Hittorf.)—Fig. 9. Ornament of terra-cotta. Museum of the Count of Biscari at Catania.—Fig. 10. Cyma of terra-cotta. From Selinunt. (Dörpfeld.)—Fig. 12. Covering of the coping. From Selinunt. (Dörpfeld.) Fig. 13. Terra-cotta from Tanagra. (Hittorf.)

## Greek Vase-painting.

The art of vase-painting differs from the kind of painting hitherto mentioned in its monochromatic execution, in its want of aerial perspective, of *chiaro-oscuro* and of shading. The representations consist of more or less life-like figures systematically arranged side by side or one above the other, the scene of action is symbolically suggested. The figures are represented either by simple outlines or in silhouette the muscles, garments and distinguishing details and ornaments within the outlines being indicated by lines. The silhouettes are either parts of the natural ochreous or variously coloured ground left free from the black glazing or are done in black glazing on the artificial reddish or ochreous ground of clay, the outlines being painted in the former case, carved in with a sharp point in the latter. But often we find both modes together, besides the black silhouettes there are sometimes unglazed colours, whereby the monochromatic painting becomes polychromatic. The employment of black contours seems to be the leading feature of the best time of that period. There is reason to believe that, though in most cases the colours have been applied with a brush, sometimes a two-pointed tool has been used, judging from the double contours occurring so often.

The colours were dull in general, with the exception of black, which was mostly glazed by way of fusion with melted metallic oxide. The quality of this glazing naturally depended on the quality of the clay and that of the colours, on the degree of heat and on the duration of the burning. This black glazing being easily fusible, it was possible to mark the outlines of the yellow figures in elaborate workmanship, whereas the white outlines on black-figured vases had to be incised.

In Greek vase-painting the following systems must be specialised.

1) Burnt black earthenware, without painting, mostly with a shiny glazing, sometimes dull, also with incised or pressed decorations or reliefs, with black or white painting on grey ground, with or without glazing, consisting of decorations, heads and figures in silhouette etc. This system was especially executed in the Apulian workshops.

In the ochreous painting, especially that of the Campanian workshops, the ornaments or figures were spaces of the ground left free from the glazing and had black lines within the contours. The yellowish, reddish or brownish colours are mostly produced by the background itself, but sometimes also by the application of sinapis-red or red ochre without glazing. Adornments and other details were sometimes suggested by white or yellow colours of white clay or yellow earth.

Black figures on ochraceous background are incised in silhouette and covered with a fine black glazing, but grounds of unclean white are also to be

found. Decorations of garments or arms are sometimes dull violet and the fleshy parts of the figures are white.

2) Burnt ochraceous earthenware either in the natural colour of the clay or with red or brown glazing. The figures are ochreous on brown-red grounds, the muscles being suggested in the colour of the ground, but there occur as well brown-red figures on bright yellow grounds of ochre or black figures with incised outlines on bright, mostly glazed grounds of ochre, in this case the fleshy parts of the figures are white, parts of the drapery violet.

3) Burnt white earthenware with brownish-black figures. These vessels of ochreous clay were covered with white clay, the figures had brown or black outlines. Now and then the black figures, which are drawn in silhouette, are furnished with brownish violet ornaments. Occasionally vessels are to be found with painting in four, six and even more colours.

### Plate 23. Types of Vases.

(Lau, Die griechischen Vasen.)

Fig. 1. Rhyton (drinking vessel) in form of a deer's head, with cup. Late vase-painting.—Fig. 2. Vessel in form of a woman's head.—Fig. 3. Apulian incensiere (censer). Combination of various styles.—Fig. 4. Apulian two-handled cup.—Fig. 5. Hydria or Kalpis.—Fig. 6. Lekythos (vessel to hold consecrated oil). Developed Attic style.—Fig. 7. Jug with Asiatic reminiscences.—Figs. 8, 9. Bowls with handles. Later period.—Fig. 10. Crater.—Fig. 11. Amphora.—Fig. 12. Lekythos. Combination of the black-figured, red-figured and polychromic styles.

### Plate 24. Vase-painting.

Figs. 1, 3, 5. Ornaments of a Tyrrhenian amphora. (Lau, Die griechischen Vasen.)—Figs. 2, 4, 9, 10. Ornaments of Panathenaic amphorae. (Lau.)—Fig. 6. Ornament of a drinking vessel. (Lau.)—Figs. 7, 8. Friezes of Apulian vases. (Gerhard, Apulische Vasenbilder des Kgl. Museums in Berlin.)—Fig. 11. Painted vessel, representing a sphinx. From Tamon. (Springer, Handbuch der Kunstgeschichte.)—Fig. 12. Apulian vase-picture, representing cultus of Bacchus. (Gerhard.)—Fig. 13. Ornament of the neck of an amphora. (Lau.)

### Plate 25. Fragments of Greek earthen Vessels.

(Antike Denkmäler, herausgegeben von der Archäologischen Gesellschaft.)

Figs. 1, 2, 3, 5. Fragments of a Protocorinthian vase. Collection of Count Don Mario Chigi-Albani in Rome.—Fig. 4. Fragment of a Tyrrhenian amphora. Corneto Museum.—Fig. 6. Fragment of a Caeretan hydria, probably originating from the Ionian east. Berlin Museum.—Figs. 7, 8. Black-figured Attic vase from a necropolis at Athens.

### Plate 26. Marble Mosaics.

Fig. 1. Marble floor from Olympia. (Poppe, Sammlung von Ornamenten u. Fragmenten antiker Architektur, Skulptur, Mosaik und Toreutik).—Figs. 2, 10, 11. Marble mosaics (floors) from Eleusis. (Poppe).—Figs. 3—9. Fragments of floors from Sicily, partly in the Museum of the Count of Biscari (Hittorf.)

## Greek wooden Coffins.

During the excavations of the German Company for the Disclosure of the Tomb of the King Ne-woser-re a little necropolis near Aboukir, to the east of the pyramid of the King Ne-woser-re, was laid open, which, judging from the objects found in the coffins, is of Greek origin and dates from the era of Alexander the Great. Most of the coffins are of wood, and having been covered with dry sand, are in an excellent state of preservation. Besides those wooden coffins have been found mummy-coffins. The objects found in these latter ones permit the conclusion that the mummies are of Greek origin. Strange to say even the burial in two large pithoi (large spheroid Greek earthenware vessels) occurs here in three cases, similar to the mode of interment in water-pipes found in the necropolis of Dipylon at Athens. The coffins were resting  $2\frac{1}{2}$  m below the present surface, on a level with the pavement of the time of the Vth dynasty. The feet of the coffins are mostly sawn off in order to prevent their sinking into the earth. The feet of the corpses were turned to the west, the heads to the east. Tombstones or barrows could not be ascertained.

### Plate 27. Painted Coffins from Aboukir. Era of Alexander the Great.

(Watzinger, Griechische Holzarkophage aus der Zeit Alexanders des Großen, Veröffentlichungen der deutschen Orientgesellschaft, Heft 6.)

Figs. 1, 2. Side-view of a coffin.—Fig. 3. Fragment of an Attic lekythos, found in one of the coffins.—Figs. 4, 5. Frontal views of two wooden coffins.

### Plate 28. Greek Gold-adornments.

Figs. 1, 15. Ear-drops from Ithaca (Antike Denkmäler).—Fig. 2. Necklet of a reddish material, gilt. Ithaca. (Antike Denkmäler).—Fig. 3. Attic silver-vase with gilt reliefs (Havard, Histoire de l'orfèvrerie française).—Figs. 4, 5. Earrings from Athens. (Antike Denkmäler).—Figs. 6, 12. Earrings from Ithaca. (Antike Denkmäler).—Fig. 7. Drop of an earring from Athens. (Antike Denkmäler).—Fig. 8. Ear-drop of a priestess of Demeter, found in a tomb near Kertch. (Stephani, Die Altertümer von Kertsch).—Fig. 9. Necklet, part of the official garb of a priestess of Demeter, found in a tomb near Kertch. (Stephani).—Fig. 10. Ear-drops from Athens. (Antike Denkmäler).—Fig. 11. Earring from Athens. (Antike Denkmäler).—Fig. 13. Earring from Delos. (Antike Denkmäler).—Fig. 14. Necklet of gold from Ithaca. (Antike Denkmäler).—Fig. 16. Ring from Ithaca. (Antike Denkmäler).—Fig. 17. Piece of a necklet from Smyrna. (Antike Denkmäler).—Fig. 18. Gold plate from Kertch, representing the goddess Demeter. (Stephani).—Fig. 19. Chain round the neck of an amphora. (Havard, Histoire).—Fig. 20. Gold plate from Kertch, representing Heracles. (Stephani.)

## The Etruscan Ornament.

### Etruscan Painting.

The Etruscans, like the Greeks, were fond of employing polychromy in order to render conspicuous the profiles of their buildings and the reliefs of

their sculptures. They used polychromy on a large scale also for decorative purposes, and the great number of Greek vases which were imported seem to have been their models. The best known specimen of this art is the wall-painting recently found in one of the Etruscan tombs, exact copies of which are in the possession of the German Archaeological Institute in Rome. In the Vatican and in the Bologna and British Museums are also copies of it, which however, do not in all details show the strict style of the original. This mode of painting tombs seems not to have existed all over Etruria; it appears to have been confined to certain districts as Corneto, where 50 tombs have been discovered, Chiusi (about a dozen), Cervetri (4 tombs), Vulci, Orvieto, Bieda, Bomarzo, Cosa, Orte, Veii, Vetulonia (one tomb each).

These wall-paintings are never painted on masonry, but on the hewn rock, either directly or on a layer of plaster. As the rocks of this region were mostly of calcareous tuff of fine grain, it was possible to paint directly on the stone. Other species of stone were covered with a thin plaster of lime and sand in order to produce a good background. In these paintings like in those of Pompeii are still to be found the traces of the instruments used in copying the outlines from the cartoons. The spaces between the contours were filled in with colour, afterwards the contours were redrawn; the spaces between the figures are in most cases without colours, they showed the yellowish tone of the plaster. The chief colours were sooty brown, minium, cinnabar, lime-wash, ochre, cupric oxide, and verdigris, often mixed in order to obtain shades.

Those paintings must not be regarded as pictures, but as decorations, which were conventional like the Egyptian ones. Besides, as they were located in dark rooms, they seem to have been intended for the light of torches and not for the daylight. The sculptures were coloured with a sticking substance, probably albumen.

These tomb-paintings always representing rooms of the houses of the deceased give us reason to believe that the houses of the Etruscans also had wall-paintings, at least Pliny, who has seen them personally, states their existence. The subjects of these paintings were mythological scenes, but also scenes of Troy, while in the tombs the leading motive seems to have been a banquet with a couch and a couple and up to nine couches with eighteen persons in various attitudes. The subjects exhibit in general a naïve realism, the persons being occupied with music, singing, dancing etc., but sometimes pictures are to be found about the existence after death, representations of Greek and Etruscan legends, portraits, landscapes, and even the picture of a complete butcher's shop occurs.

The Etruscan wall-paintings belong to various periods. Those found in the tomb of Campana at Veii, probably painted towards the end of the fourth century B. C. (Veii was destroyed in 396 B. C.), are badly misdrawn, but curious to say with a correct notion of the muscular system, which streng-



thens the impression that these pictures have been copied from Greek vases. This Graeco-Oriental style seems to have been in general vogue in Etruria since the sixth century B. C. This period is chronologically succeeded by that of the painted clay-plates of Cervetri, which exhibit scenes of Etruscan life, but do not altogether deny a certain Greek influence either. This style is gradually supplanted by the introduction of Tuscan elements, and after red-figured Greek vases had been imported (about 460 B. C.) a pure Tuscan style was at last developed. Thus an Etrusco-Grecian style came into existence as a consequence of the combination of Greek reminiscences with pure Tuscan elements, which is to be found especially in the wall-paintings of Corneto, Chiusi and Orvieto. This particular style produces towards the end of the Etruscan art purely mythological compositions, which make themselves conspicuous by correcter drawing and finer coloration. But in spite of the fact that we now and then come across a correctly drawn head, a good profile, an expressive and eloquent physiognomy, a well chosen and combined group, a well drawn drapery, the artistic execution in these paintings is but mediocre and sometimes rather careless. The frequent repetition of various subjects raises the suspicion, that there might have existed certain models, probably taken from Greek vases, which passed from hand to hand. As those paintings give us a chance of tracing the development of the Etruscan art step by step, we find that the artistical value is less than the archaeological one.

### Plate 29. Etruscan Frescoes.

Figs. 1, 3, 4, 5. Painted plates of clay from Cervetri. (Martha, *L'Art Etrusque*.)—Figs. 2, 8. Frescoes from the tombs of Corneto-Tarquinia. VIth century B. C. (Antike Denkmäler.)—Figs. 6, 7. Painted sarcophagus of clay belonging to the family of the Seianti, found near Chiusi (Poggio Cantarello). 1.90 m long, 0.70 m broad, 0.42 m high.

### Plate 30. Etruscan Gold-adornments.

Figs. 1, 6, 10, 11, 12, 14. Etruscan jewellery. Louvre. (Martha, *L'Art Etrusque*.)—Fig. 2. Diadem, found in a tomb near Chiusi. (Dr. Stockhausen, *Der Metallschmuck in der Mustersammlung des Bayerischen Gewerbemuseums in Nürnberg*.)—Fig. 3. Ear-drops of the same origin. (Dr. Stockhausen.)—Figs. 4, 7. Ear-drops. (Martha.)—Fig. 5. Fibula of gold. Louvre. (Martha.)—Fig. 8. Pin for garments. (Dr. Stockhausen.)—Fig. 9. Bracelet of bronze. (Dr. Stockhausen.)—Figs. 13, 16, 17, 18. Necklace of gold, found in a tomb near Chiusi. (Dr. Stockhausen.)—Fig. 15. Earring of filigree, head of amber. (Martha.)—Fig. 19. Bracelet of gold. Louvre. (Martha.)

## The Roman Ornament.

### Roman Fresco-painting.

Pliny affirms to have seen paintings older than the City of Rome, which allows the conclusion that the art of painting must be very old in Italy. Besides these

national paintings there existed foreign ones in Italy, especially in the era of Augustus. According to Vitruvius' statement the fresco-paintings were executed on a threefold plaster, which in its turn was covered with a threefold coating of stucco (*marmoreum granum*), consisting of carefully sifted marble dust and slaked lime. Finally the uppermost layer was polished with marble dust and, being still moist, painted. This mode of painting is not to be mistaken for that of painting on dry backgrounds with adhesive substances. The sticking substances of the ancients were gum, tragacanth, animal sizing, albumen, milk, in Egypt the blood of the hippopotamus, further wax with an admixture of oil or resin, if a polish was to be produced. It also occurs in antiquity, that whole pictures with the stratum of stucco were separated and inserted into newly plastered walls. The so-called fresco secco system still employed in Italy, a sprinkling of the dried stucco till it is thoroughly moistened, was already in vogue with the ancients. For the purpose of retouching generally distemper-colours were used with strong adhesive substances as albumen, honey, milk etc.

It is not very likely, that the so much admired frescoes should have existed only at Pompeii and Herculaneum; the fact is, these two towns are the only places, where they have been preserved. E. g. fragments of frescoes in the Imperial Palace in Rome exhibit the characteristic features of the transition from the second to the third Pompeian style, which, strange to say, has not yet been found at Pompeii itself. Vitruvius complains of the decline of Roman art of painting in general without mentioning the Pompeian art specially. But a certain freedom of execution and an abundance of artistic ideas is not to be questioned in the paintings of the Imperial Palace. The festoons of fruit e. g. hanging between the columns with their religious objects and waving bands are original motives which give a room a dignified and solemn aspect. A calyx decorated with sea-dragons, however, seems to be no recommendable basis for a supporting column, especially if it has altogether lost its tectonic purpose through decorations of inorganically added heads, tendrils and bands. In coloration the principle is observed to apply lighter and lighter colours the nearer they are to the top. Lights and shades of the panels are suggested by white or black lines. Spaces painted in similar or unharmonious colours are always separated by lines of another colour. Stencils have not been used, but rulers and tracings.

### Plate 31. Wall-decorations from the Imperial Palace on the Palatine Hill in Rome.

(Schwechten, Wanddekorationen aus den Kaiserpalästen auf dem Palatin in Rom.)

## Roman Mosaic.

Mosaic is called the reproduction of drawn ornaments or pictures by composing coloured stones, pieces of burnt clay or glass etc. in order to produce durable decorations of walls or floors. The various methods of this process are most easily to be traced in Pompeian art. The most primitive mosaic is a floor of pounded bricks and lime, into which patterns of square cut stones are pressed; the surface is smoothed and polished. In case the floor is covered all over with coloured stones the mosaic is termed tessellated work (*opus tessellatum*), which consists of stones of all colours in geometrical designs, arabesques and figures; but the development seems not to have proceeded in this order, as just the most artistic mosaics at Pompeii are the oldest ones.

The mosaic comes from the Orient. The earliest European mosaic is in the temple of Zeus at Olympia, it has been composed in the first half of the fourth century B. C. Favourite and mostly very naturally executed subjects for the floors of dining-rooms were remainders of food, sweepings etc. Another prevailing style at this period was a mosaic of pigeons sitting on the brim of a basin, with masterly executed cast-shadows. Later on even the most difficult artistic compositions were reproduced in mosaic. It seems, that these mosaic floors came into existence because in the third and second centuries B. C. the walls at Alexandria were entirely covered with marble, so that no room was left for paintings, which consequently were removed to the floor. At Pompeii, though the walls there were covered with painted stucco, they imitated this habit and probably ordered skilful workmen from Alexandria. Especially famous is a large mosaic at Pompeii which represents the battle of Alexander the Great on the Issos. During the conquests of the Romans this art spread itself in the Roman provinces, and wonderful Roman mosaics have been found especially on the Rhine. Most remarkable are the mosaic floors, which are divided by ornamental frames into circles, ellipses, squares, rectangles etc., each decorated with an ornament of plants or figures. The little pieces of marble or glass are pressed into a cement of lime and oil on a reddish mortar of brick-dust with a layer of lime and gravel beneath and on a bedding of limestone. The later mosaics are technically more perfect than the earlier ones, but not artistically. In the third century the melting of gold foil on the glass-squares seems to have become known, whereby this art achieved a still higher appreciation in those pompous times, especially as the shining gold, the brilliant colours, the many-coloured glass-pieces which later on were used instead of marble, the artificialness of the execution, and the durability of the mosaics easily excelled the perishable paintings. In this way the perfection of mosaic work in the later Byzantine art is accounted for. In the course of time the figurative representations vanish more and more and are replaced by purely ornamental decorations.

The plate-mosaic (*opus sectile*), in which artistically hewn plates are composed in geometrical patterns, seems to have sprung up in the era of Sulla. In the Caesarean era it was chosen for walls as well as for floors, and sometimes it occurs in combination with *opus tessellatum*.

### Plate 32. Marble Mosaics.

Fig. 1. Floor of a house at Brescia. (Gruner, *Specimens of ornamental Art.*)—Fig. 2. Floor of a Roman villa near Wiltingen.—Figs. 3, 4. Floor of a bath-room in a Roman villa near Vilbel (Frankfort on-the-Main). Now Darmstadt Museum.—Fig. 5. Floor of a Roman house at Trier.—Fig. 6. Head of a swordsman in the floor of a Roman villa at Nennig.—Fig. 7. Floor of a Roman villa at Euren. (Vorlagensammlung der Kgl. Kunstgewerbebibliothek in Dresden.)

### Plate 33. Marble Mosaics.

(von Weissbach'sche Sammlung im Kunstgewerbemuseum in Dresden.)

Figs. 1, 4, 6, 7. Plate-mosaics. Salzburg.—Fig. 2. Plate-mosaic. Trier.—Fig. 3. Plate-mosaic. Cologne.—Fig. 5. Mosaic floor from Weyeregg. Linz Museum.—Figs. 8, 9. Floors. Trier.—Fig. 10. Floor from Vilbel near Frankfort on-the-Main. Now Darmstadt Museum.—Figs. 11, 12, 13. Floors. Verona.

### Roman Enamelling.

It is the merit of the German monk Theophilus (mentioned in 999 in the monastery of Tegernsee) to have handed down to modern times the knowledge of antique works of applied art in his book "*Diversarum artium schedula*." Notwithstanding the fact that Pliny by electron understands amber, this originally Asiatic word is understood by the ancient writers as Homer etc., who did not know the amber, to signify precious stone or its substitute enamel. One found, that glass or frit, when pounded, are transformed into a glassy mass in the furnace. But as large surfaces of enamel come off and different colours run one into another, they tried to prevent this disadvantage by soldering small stripes of sheet-metal on the surfaces which were to be decorated, and so the so-called cellular enamel or *émail encloisonné* was gradually developed. The Franks, after establishing their government in Gaul, altered the process; they inserted jewels up to 7 mm long and 3–4 mm broad or little coloured plates of glass between the fillets. Later on they engraved holes into the surface, whereby a greater refinement in the design was obtained; but as the holes must be at least 2 mm deep, thicker metal was necessary and consequently base metals were used. Thus the *émail champlevé* was developed. The engraving with the graving-tool being difficult, they preferred patterns of circles, which could be carved in by means of the lathe or the punch.

The green enamel which is always to be found under the vitreous paste

émail inclinaient à se briser. Pour remédier à ces maux, on souda de minces lames d'étain sur le fond à décorer et par degré on obtint l'émail cloisonné. Les Francs, après s'être établis en Gaule, changèrent le caractère de l'émail, le remplaçant par des lamelles de verre coloré ou par des pierres précieuses larges jusqu'à 7 mm et hautes de 3 à 4 mm. Plus tard on approfondissait dans la surface à décorer les compartiments à recevoir l'émail, ce qui résultait en une plus grande finesse du dessin. Cette technique en même temps exigeait des plaques métalliques d'une certaine épaisseur des reserves de 2 mm devant être faites; par conséquent on se servait souvent de métaux vulgaires pour cet émail dit «champ-lévé» ou «entaille d'épargne». Comme l'intaille au burin était chose difficile, on affectait des dessins de disques ou d'anneaux, qui se faisaient sur le tour ou furent repoussés aux maillets.

Sous le fluor décoratif se trouve partout un émail vert, qui, à ce qu'il paraît, servait de liant pour l'émail et le fond métallique. La composition de l'émail semble avoir été la même que celle des cubes de mosaïque. Les colorants étaient: cuivre pour rouge, vert et bleu, pour ce dernier aussi cobalt; plomb, antimoine et urane pour jaune et orange; chrome aussi pour vert. Ce n'étaient point des alliages chimiques, dont les Romains coloraient le verre, mais plutôt des substances élémentaires, telles que les offrait la nature: des terres et des minéraux métalliques, que les Romains usaient sans se rendre compte de l'agent colorant.

#### Planche 34. Orfèvrerie et Emaillerie Romaines.

Fig. 1, 3, 5 à 13, 17, 20 à 23. Aiguille romaine de bronze et émail, maintenant au musée de Wiesbaden (v. Cohausen, *Römischer Schmelzschmuck*). — Fig. 2, 4, 14, 16. Boucles d'oreilles romaines provenant de Pompéi (Nicolini, *Pompeji*). — Fig. 15, 24. Bracelets romains provenant de Pompéi. — Fig. 18, 19. Bague romaine de Pompéi (Nicolini).

## L'ORNEMENT ROMAIN-HELLÉNISTE.

### PEINTURES MURALES DE POMPÉI.

C'est au-de-là de doute, que les peintres de Pompéi ont travaillé d'après des modèles gréco-alexandrins, qui n'étaient pourtant pas les originaux, mais comme le prouvent certaines différences, des copies quelque-peu inexactes. Tout-de-même il faut reconnaître à ces peintres pompéiens un sentiment très-développé du pittoresque, autant dans leur interprétation et leur composition, que dans les formes et le coloris. Où ils n'égalent pas leurs modèles grecs il faut considérer, que ceux-ci étaient des tableaux, tandis que la peinture de Pompéi qui

middle and the upper parts of the wall, divided from each other by a projecting moulding. The marble-like painted surfaces of the rectangles were projecting, the junctures deepened.

2) Later on those rectangles became more varied and larger; fictitiously projecting columns made the room appear more spacious than it really was. In the middle part of the wall persons and objects were represented in a realistic manner, the upper part was painted white and blue, representing the view into the open air, strengthened by painted parts of architecture, tree-tops etc.

3) Under Augustus, coincident with the invasion of foreign motives, especially Egyptian and Oriental ones, the imitation of marble vanishes. Now the wall was divided into three parts by small columns, pillars or objects resembling chandeliers etc. In case the wall was very broad, there was another division of the two outside parts. The inner parts were framed, executed as carpets or niches and mostly furnished with a special picture. On the side-faces were often floating figures, on the upper part fantastic figures or objects. The socle sometimes was discontinued.

4) After the first earthquake in 63 A. D., when the city was rebuilt, we notice a rococo-like decline of the art, a wild, fantastic confusion of all possible and impossible forms of architecture, vegetal decorations, figures, views of the interiors of houses and pictures with a good many drawings of men and animals. The imitation of marble re-appears, but with receding surfaces and projecting junctures.

But it would be a mistake to assume, that these four styles had succeeded one another chronologically; we must suppose, that there have existed an earlier and a later period, the "second style" probably lying between them. Besides, it is difficult to guess the date of creation from the style. The only fact we are able to make out is, that those paintings have been executed by a guild, as it were, of painters of several generations running, who had been trained in those, then, modern forms of style which from Alexandria had spread themselves over all the more important places. Although not all of these painters have been Greeks, this corporation is to be called Hellenistic. But besides these real artists there have existed painters, mostly natives, who painted for the houses of the poor and for the deities; they imitated the good foreign masters and copied the traditional execution of the religious pictures and statues. From these painters seem to originate the serpents of the façades (see plate 47) and the figures on the hearths, which are rather inferior from an aesthetic point of view, but nevertheless are much better than those modern decorative paintings in the vicinity of Naples.

Especially known are the beautiful frescoes in the Casa dei Vettii, which have been reproduced in a special work "Nuovi Scavi di Pompei, Casa dei Vettii per Pasquale d'Amelio." A specimen is given in plate 43.

The style of the frescoes at Herculaneum is about the same as the Pom-

peian style, but its development, though the same in the main features, has taken another course, the execution is more antique, the artistic perfection of the painters more superior. The colours are more brilliant and richer, the ornamentation is more ingenious, the design more expressive. Regarding aesthetic perfection, however, the Pompeian forms of style deserve a higher praise.

### Plate 35. Pompeian Frescoes.

Fig. 1. Fresco. First period. (Presuhn, Die pompejanischen Wanddekorationen.)—Fig. 2. Fresco. Second period. (Nicolini, Pompeji.)

### Plate 36. Pompeian Frescoes.

(Gruner, Specimens of ornamental Art.)

Figs. 1, 2. Frescoes in the House of the Labyrinth. Second period.

### Plate 37. Pompeian Frescoes.

(Nicolini, Pompeji.)

Fig. 1. Fresco. Third period. — Fig. 2. Fresco. Fourth period.

### Plate 38. Pompeian Frescoes.

(Zahn, Ornamente aller klassischen Kunstepochen.)

Fig. 1. Painted frieze from Pompeii. Naples Museum.—Fig. 2. Frieze from the House del poeta tragico.—Fig. 3. Fresco from the House d'Argo ed Io.—Fig. 4. Fresco from the House del Gran Duca di Toscana.

### Plate 39. Frescoes.

Fig. 1. Fresco from Herculaneum. (Zahn, Ornamente.)—Fig. 2. Fresco from Pompeii. (Nicolini.)

### Plate 40. Decorative Paintings.

Fig. 1. Frieze from Pompeii. (Nicolini.)—Figs. 2, 5. Pilaster-paintings at Herculaneum. (Zahn, Ornamente.)—Fig. 3. Painted ceiling at Pompeii. (Zahn, Ornamente.)—Fig. 4. Painted ceiling at Pompeii. (Nicolini.)

### Plate 41. Pompeian Frescoes.

(Zahn, Ornamente aller klassischen Kunstepochen.)

Figs. 1—9. Pilaster-decorations.

## Plate 42. Pompeian Frescoes.

(Zahn, Ornamente aller klassischen Kunstepochen.)

Figs. 1—20. Painted frames.

## Plate 43. Pompeian Frescoes.

(Pasquale d'Amelio, Nuovi Scavi di Pompeii, Casa dei Vettii.)

Figs. 1—5. Friezes of little Cupids.

## Plate 44. Pompeian Paintings and Mosaics.

(Zahn, Ornamente aller klassischen Kunstepochen.)

Figs. 1—3, 5—7. Wall-decorations of several houses at Pompeii. —Fig. 4. Column with mosaic from the House delle quatre colonne a Mosaico in the Street of Tombs at Pompeii. (Gruner, Specimens of ornamental Art.)

## Plate 45. Pompeian Decorations of Walls and Rooms.

(Nicolini, Pompeii.)

Figs. 1, 3. Wall-decorations. Third period. —Fig. 2. Painted statue of Isis.

## Plate 46. Wall-decorations.

Fig. 1. Frieze from Herculaneum. (Zahn, Ornamente.) —Figs. 2—4. Friezes from Pompeii. (Zahn, Ornamente.) —Fig. 5. Fountain in a niche of the House of Medusa at Pompeii. (Gruner, Specimens of ornamental Art.)

## Plate 47. Façade=painting.

(Nicolini, Pompeii.)

Façade with balcony and shop at Pompeii.

## Plate 48. Painted Pompeian Stucco=ornaments.

(Zahn, Ornamente aller klassischen Kunstepochen.)

Figs. 1, 6, 7, 8, 13. Painted columns and capitals of stone, covered with stucco. —Figs. 2—5, 9—12. Painted interior mouldings.

## Plate 49. Marble Mosaics.

Figs. 1—4, 7, 10, 11. Marble mosaics from Pompeii. —Figs. 5, 6, 8, 9. Rosettes of marble pieces and vitreous paste from Herculaneum. (Zahn, Ornamente.)



## Plate 50. Pompeian Furniture.

(Nicolini, Pompeii.)

Fig. 1. Money-chest of bronze.—Figs. 2—5. Bedstead of wood and bronze.

## Plate 51. Hellenistic Glass-vessels.

(Nicolini.)

Figs. 1—7, 9—13. Glass-vessels, found at Pompeii.—Fig. 8. Funeral urn of blue glass with a coating of white glass and bas-reliefs. Found at Pompeii.

## Plate 52. Alexandrian Tissues.

Figs. 1—4, 6—9. Silk tissues interwoven with gold. IIIrd—VIth cent. A. D. (Fischbach, *Die wichtigsten Webeornamente.*)—Fig. 5. Portrait from Hawara. End of the first century A. D. Painting in distemper on canvas with white ground-colour. (Antike Denkmäler.)

## The Buddhist Ornament in India.

### Polychromy of the Buddhist Cave-temples.

The promotion of Buddhism to the rank of state-religion in the year 256 B. C. by King Asoka (276—240 B. C.) was the beginning of a new era of art quite different to the former Vedic-Brahminic one. It existed up to the eighth century A. D., when it was replaced by the Neo-Brahminic art. In regard to polychromy the wall-paintings of the cave-temples, especially of those of Ajantâ, represent the highest accomplishment of this art and at the same time an authentic document on the development of Buddhism, the rise of the atheistic teacher and philosopher Buddha to a divine dignity and the mode of life of that time. In most cases the founder of the religion is represented in a strict conventional manner like in China and Japan, but sometimes also as a human being living among men.

Fergusson says, that those wall-paintings are, at any rate, better than any paintings of Orcagna or Fiesole. Their style, however, points more to China than to Europe, especially when we regard the wanting of plastic and shades. The ornament is on about the same level as that of the *thermae* of Titus. The same style, the same symbols, the same decorative details, the same manner of grouping are to be found in the Buddhist paintings of Nepal, China, Japan, Burma, and Java. But though Ajantâ is younger, it has drawn from the original source of inspiration, the imitation of nature; the artist has painted what he had before his eyes.

As nearly all modes of painting employ the same technique, in the Egyptian and Etruscan tombs as well as at Pompeii and Herculaneum and at Ajantâ, they necessarily must correspond to each other to a certain degree; thus especially a fresco of Ambrogio Lorenzatti (XIVth century A. D.) shows a striking resemblance in coloration and execution to the wall-paintings of Ajantâ. From

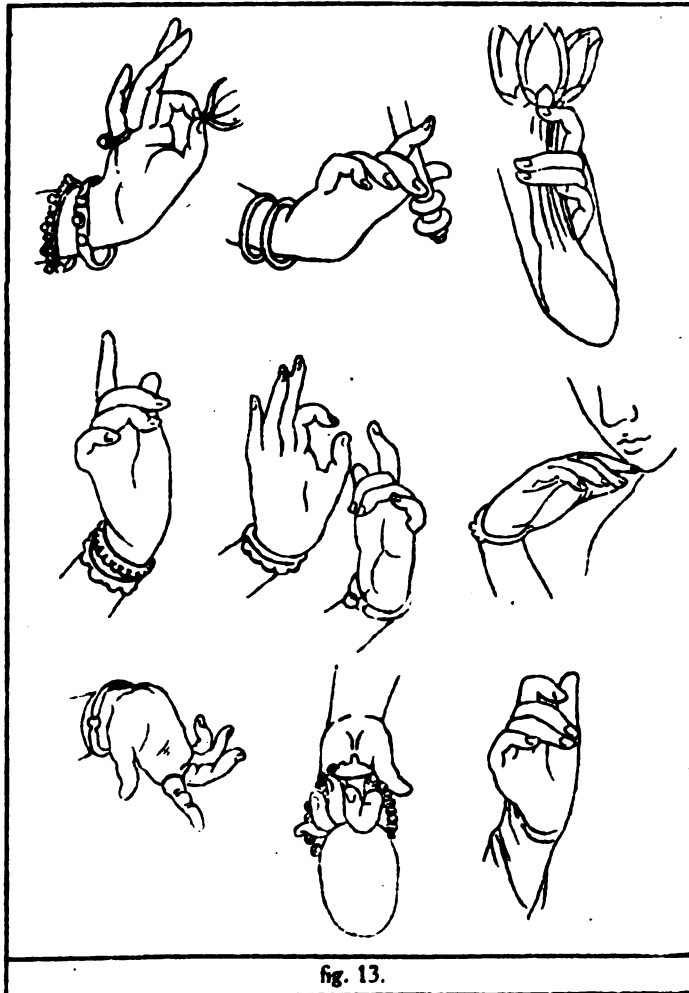


fig. 13.

the exact mode of drawing in the latter we may infer an advanced artistic training of the creators of these paintings, especially the representation of the hands in the most difficult positions is astonishing. (Fig. 13.) The feet, however, are somewhat neglected; the exaggeration in female hips and bosoms is common to all Indian sculptors.

The execution of those paintings is a mixture of painting in distemper and fresco. A plaster of clay, cow-dung and trap-dust was applied to the rock, about  $\frac{3}{4}$  in. thick, and pressed on it in order to fill all holes in the stone. Then a thin coat of gypsum was laid on with a coarse brush and smoothed with a kind of trowel. The drawing was traced or powdered on this smooth surface. The

outlines were drawn with brown or black colour, the local colour, consisting of colouring matter, rice- or glue-water and honey, was laid on, and at last the details were executed.

In some of the temples white lights have been obtained by scratching off the colour and laying bare the white background, as it is customary in the sgraffito-painting.

## Plate 53. Paintings in the Buddhist Cave-temples of Ajantâ, VIth century A. D.

(Griffith, Paintings in the Buddhist cave-temples of Ajantâ, Kandeh in India.)

Figs. 1—3, 7, 10. Paintings in coffers of rock-ceilings. — Fig. 4. Portrait of Buddha. — Figs. 5, 6, 8, 9. Painted rock-pillars.

## Plate 54. Ceiling=pieces in the Buddhist Cave=temples of Ajantâ.

(Griffith.)

Figs. 1, 2, 4, 5. Paintings on smooth rock=ceilings.—Fig. 3. Painting on a coffer of a rock=ceiling.

## Plate 55. Paintings in the Buddhist Cave=temples of Ajantâ.

(Griffith.)

Paintings on a plastered rock.

## The early Christian Ornament.

It would be a mistake to ascribe to the classical art of the era of Augustus the decline which later on really came. This era, important enough to create a new religion and a new view of life which have lasted nearly two thousand years, has also proved productive in its artistic creations. Coincident with the expansion of Christianity in the first centuries a new art was developed different from the classical one, called early Christian art. It was, however, not an entirely new style, but rather an adaption of the classical art to the new Christian notions and ideas.

As the numerous monuments of the early Christian art represent only an insignificant portion of the works created in that time, we are no longer justified in speaking of the aversion of early Christianity to art in general and of its contrast to the antique especially. On the contrary, the habit of decorating artistically the coffins of the deceased, the burial=places, the churches and dwelling=houses and all religious and other objects makes manifest a pronounced antique culture and tendency. The rising Christian era found the antique art connected with the life and the spirit of the age to such a degree, that it could not possibly do otherwise than avail itself of the antique accomplishments for all its artistic purposes. The early Christian works of art are therefore only part of the whole of later antique art. Concerning the countries of the Mediterranean we may assume that up to the fourth century A. D. the pagan, after this time the Christian monuments predominate.

The symbolical motives, which we come across in early Christian works of art, are the following: the monogram of Christ X and P, A and Ω, further the fish, the dove, the anchor etc. Sometimes we find whole representations of the figures of Christ and the apostles in life size or as busts, scenes from the life of the Saviour or from the Old Testament, also often portraits of the possessors or representations of the everyday life with pious inscriptions and symbols. The early antique manner of using human figures and scenes is gradually

substituted by the purely ornamental and decorative principle of the early medieval period, but this change, which lasted six centuries, is by no means to be considered as a decline, but only as a change of taste. There is no doubt that in the first centuries of the Imperial Time, Italy had the sole leadership in all matters of art, but the east of the Roman Empire very soon developed other centres of art, which were also mostly the home-steads of the rising Christianity, as Syria, Palestine, Asia Minor, Egypt etc. Moreover, with the transfer of the Imperial residence to Byzantium in the year 330 another centre had come into existence, which soon excelled Rome in pomp and magnificence. Consequently the early Christian art was divided into two chief branches, a western and an eastern one. The latter soon lost the largest part of its sphere through the spreading Islam. Then the early Christian art at Byzantium develops into the so-called Byzantine art.

When Christianity was adopted as a state-religion in 330 A. D. the eastern centres of culture played an important part, especially Egypt. In this old cultured country so many remains of early Byzantine and early Christian art have been found, that they caused an entirely new interpretation of the early Christian period in the history of art. Especially the numerous textile remains discovered in the necropolises of Achmim (Panopolis), Antinoë, Fayum, Sakkarah and Bawit put the antique textile art in a new light. The products of the native (then Christian) population are termed Coptic. The decoration of the Coptic woven materials does not consist of inwoven patterns, but of gobelin-like weaving and stuffing. In ordinary weaving two systems of threads called warp and woof cross each other, while in gobelin-work the coloured thread reaches as far as the design requires and then is cut off and knotted at the back. This accounts for the variety of Coptic tissues and their rich and many-coloured decorative motives. The ground is mostly a yellowish white canvas, the design an embroidery of coloured or purple woolen yarn. The remains which have been found are parts of garments, the trimmings on chest and back are richly decorated. Even the materials decorated with religious representations had not a special religious purpose, as liturgic garments for the clergy were unknown, but they were amply used in decorating churches; in this case they generally consisted of silk. This valuable material, which in itself entices to an artistical execution of weaving, was up to the sixth century manufactured only in China and Kotan and was brought to Persia, Syria, Alexandria etc. by caravans or by sea. This industry the court of Byzantium soon changed into a monopoly, and by establishing the breeding of silkworms made the Byzantine Empire independent of China.

The finds of Achmim prove that silk has been worn even in the earliest times of the Empire. Whole garments of silk, however, were very rare in that time, but trimmings on linen textures, where the linen threads were substituted by silk threads, occurred very frequently.

All textile works of the later era are based on the Roman=classical art, not on the Egyptian one. We have, therefore, to see in these finds Roman or Byzantine textile materials like those which were worn in the Western Empire at that time, so that many experts think it erroneous to call those stuffs Coptic. The Hellenistic textile ornament of Alexandria became after the transfer of the Imperial residence to Byzantium a mixture of declining classical and early Christian or Byzantine art. The polychromy gradually displaced the drawing. The era after Justinian is characterized especially by wild and hard forms and a glaring coloration, combined, however, with a sometimes remarkable chord of colours. The colours of these tissues are free, i. e. without superposition for the purpose of producing shades; only in a few pieces a certain shading is to be noticed. The chief colours are purple, brownish violet and red, mostly madder (*rubia tinctorum*); the colours of the ornaments are indigo, violet blue, sky=blue, golden yellow, orange, green in several shades, and black.

### Plate 56. Coptic Tissues.

Figs. 1—4, 6—8. Coptic tapestries. (Gerspach, *Les tapisseries coptes.*)—Fig. 5. Coptic tissue. Berlin Museum of applied Arts. (Lehnert, *Ill. Geschichte des Kunstgewerbes.*)

### Plate 57. Coptic Tissues.

Fig. 1. Silk edging. Arabian influence. VIIth century. (P. Forrer, *Römische und Byzantinische Seidentextilien aus dem Gräberfelde von Achmim-Panopolis.*)—Fig. 2. Silk edging of a Gobelin, with animals. VIIth century. (Forrer.)—Fig. 3. Christ as teacher. From a series of pictures representing the life of Christ from a pallium pontificium. VIth century. (Forrer.)—Fig. 4. Silk edging. VIth century. (Forrer.)—Fig. 5. Silk material with Cufic letters. VIIth century. (Forrer.)—Fig. 6. Silk material with the Holy Virgin, the infant Jesus and a worshipper in front of a house. VIth century.—Fig. 7. Christ at the cross. From the same pallium as in fig. 3. (Forrer.)—Fig. 8. The Angel of the Annunciation, from the same pallium. (Forrer.)—Figs. 9, 11. Silk materials found in a tomb at Antinoë, Upper Egypt. Vth century. (Lessing, *Gewebesammlung des Kgl. Kunstgewerbemuseums in Berlin.*)—Fig. 10. Silk edging with the monogram of Christ. VIIth century. (Forrer.)

## The late Persian Ornament.

The art of the Sassanian era was influenced by Greek elements to a considerable degree. The textile materials of this time are of elaborate workmanship.

### Plate 58. Tissues of the Era of the Sassanian Dynasty.

Figs. 1, 2. Tissues in the Church of Servatius at Maëstricht. IIIrd—VIIth century. (Fischbach, *Die wichtigsten Webeornamente.*)—Fig. 3. Tissue with the four-bodied sea-lion representing the four seasons. From Goerz. (Fischbach.)—Fig. 4. Tissue in St. Ursula at Cologne. (Fischbach.)—Fig. 5. Bowl of the treasure of St. Denis. Said to originate from King Chosru I. (531—579 A. D.), whose portrait is to be seen in the centre of the bowl. Probably part of the gifts of Haroun-al-Rashid to Charlemagne.—Fig. 6. Silk material. Berlin Museum of applied Arts. VIth or VIIth century. (Lessing.)—Fig. 7. Tissue. Era of King Chosru II. (591—628 A. D.) Probably manufactured at Ktesiphon. Now in St. Ursula at Cologne. (Lessing.)

## The late Greek Ornament.

In the time of the decline of the classical art a new characteristic style on a classical basis with Oriental influences was developed in Greece and her colonies, specimens of which have been delivered in the so-called Treasure of Petrosa (Roumania). Although the existence of runic letters on a smooth bracelet proves that this treasure has been in the possession of Germanics, it must be considered as a product of the late Grecian art. It is probably the booty of a warlike expedition in eastern Greece hidden in the ground by a Teutonic tribe on their retreat. Barbarous or Oriental workmanship is hardly to be proved in this treasure, though slight traces of Oriental execution are exhibited in some pieces.

### Plate 59. The Treasure of Petrosa.

(Linas, *Les origines de l'orfèvrerie cloisonnée.*)

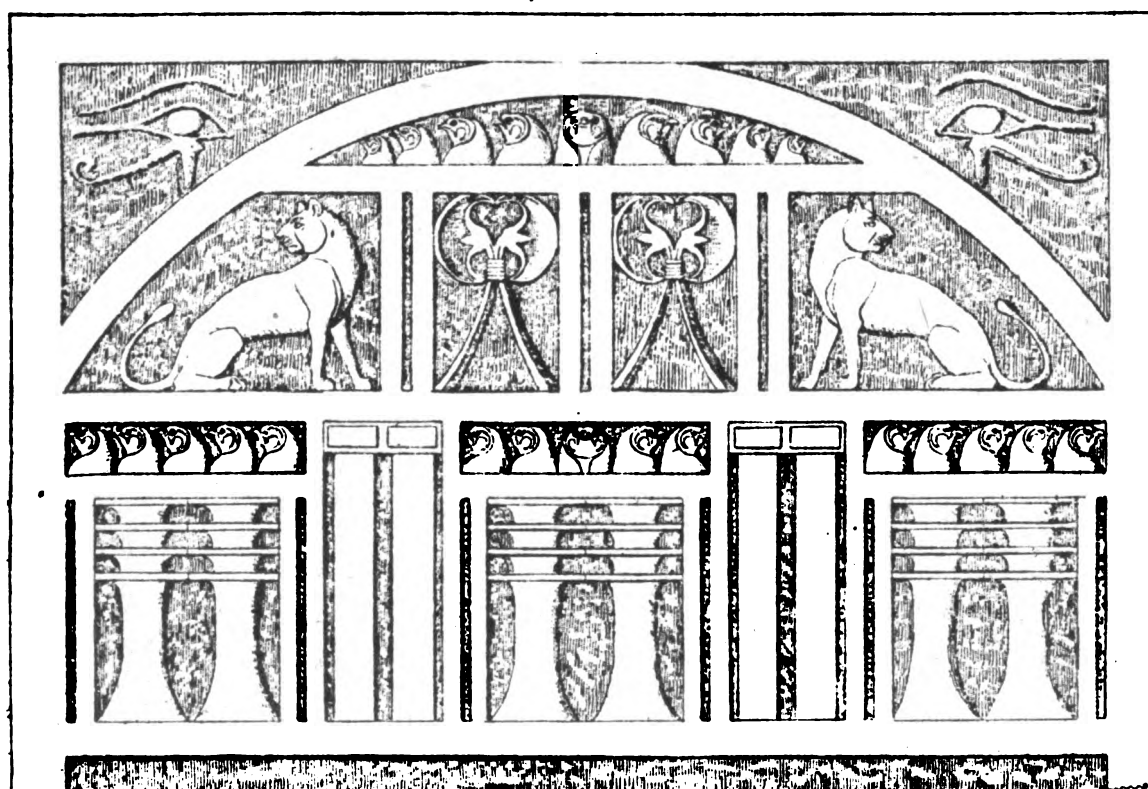
Fig. 1. Octagonal bowl.—Figs. 2, 5. Fibula.—Figs. 3, 4, 6. Twelf-sided bowl. (Fig. 3. Side-view.  
Fig. 4. Handle seen from above.)

# Supplement.

## Plate 60. Antique Vases.

(Catalogue of Hugo Helbing at Munich, auction October 30th 1913.)

Fig. 1. Kantharos from Madytos, probably early Caesarean era.—Fig. 2. Crater from Greece, late geometrical epoch.—Fig. 3. Neck of a vessel, representing the head of an ibex. From the Pontus. Hellenistic.—Fig. 4. Three-handled vase from Rhodes. End of the Mycenaean epoch.—Fig. 5. Vessel with handle, from Kul-tepe. Stone age.—Fig. 6. Necked amphora from Greece. Geometrical epoch.—Fig. 7. Vessel with handle, from Kul-tepe. Stone age.—Fig. 8. Vessel with handle, from Rhodes.—Fig. 9. Rhodian vessel with handle.—Fig. 10. Vase with cover, from Rhodes. Time of the decline of the Aegean art.







# ANTIQUITY

















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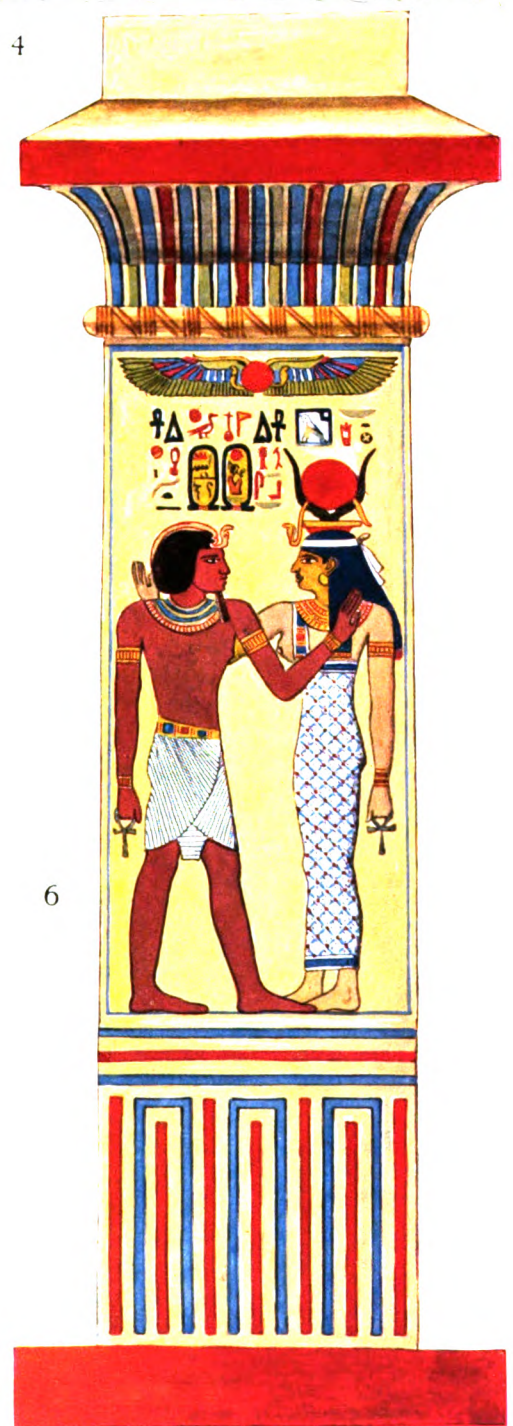
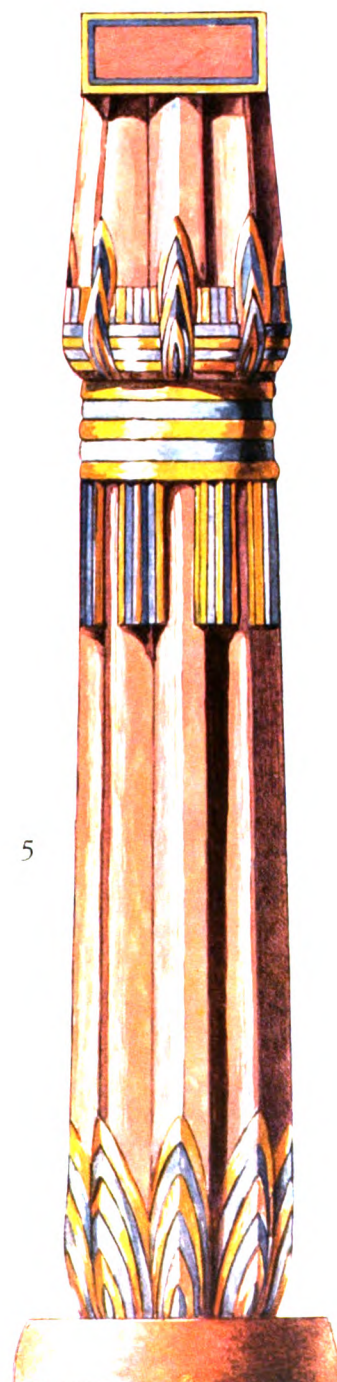
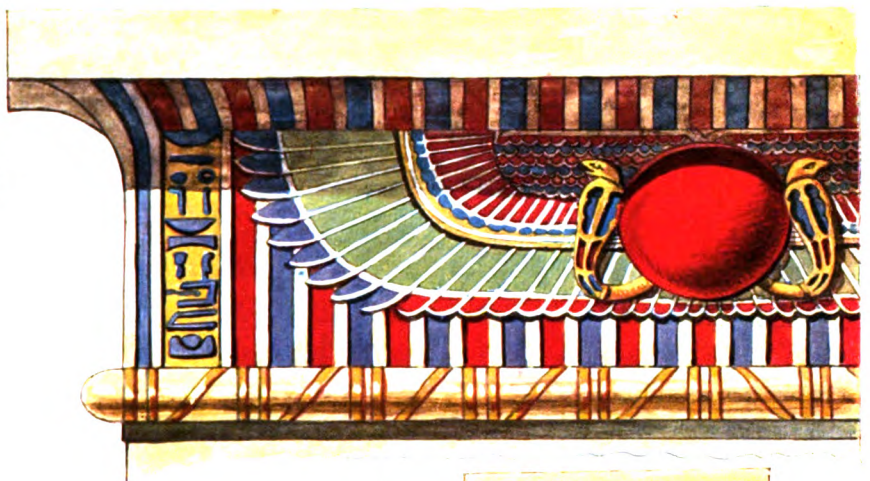
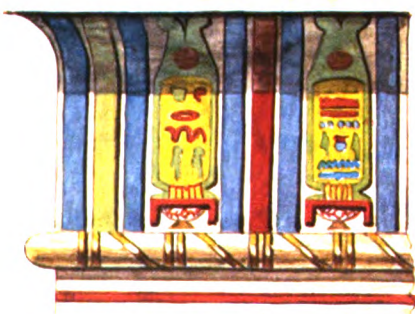


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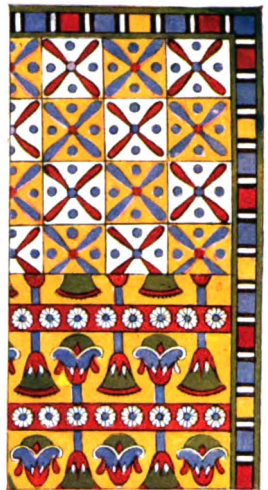
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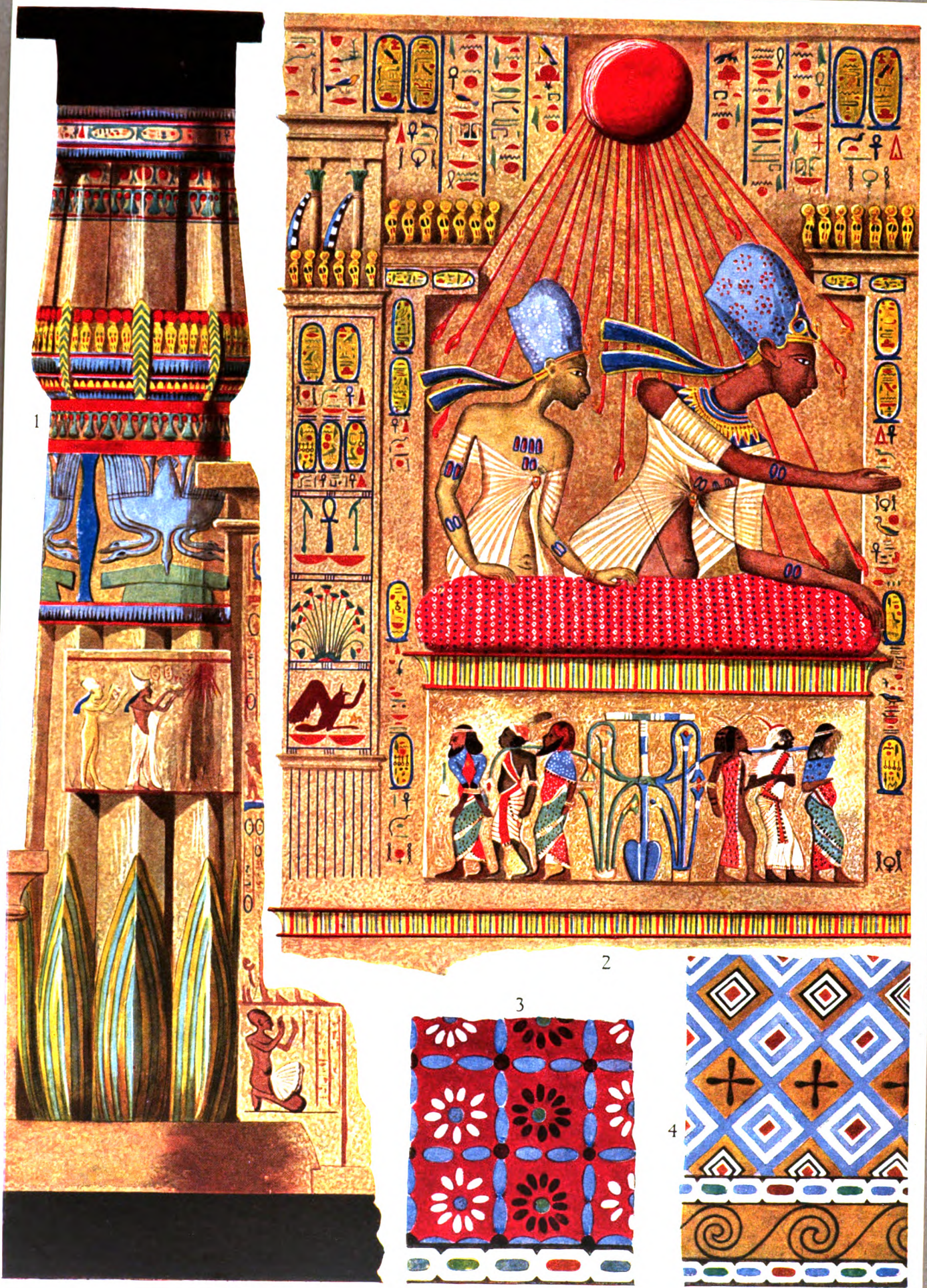


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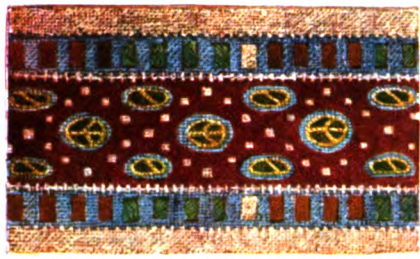












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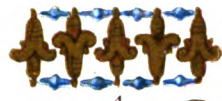
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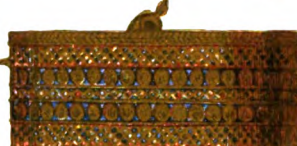


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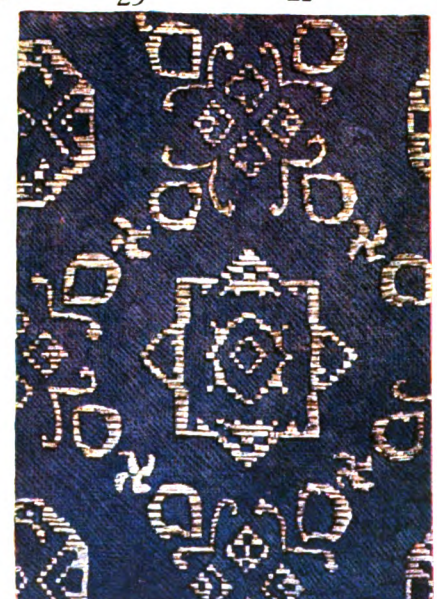
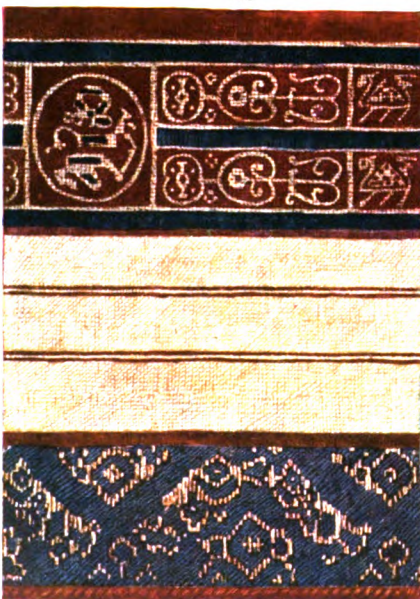


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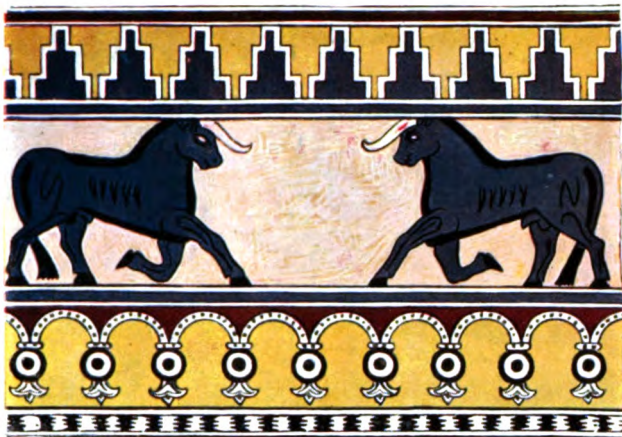




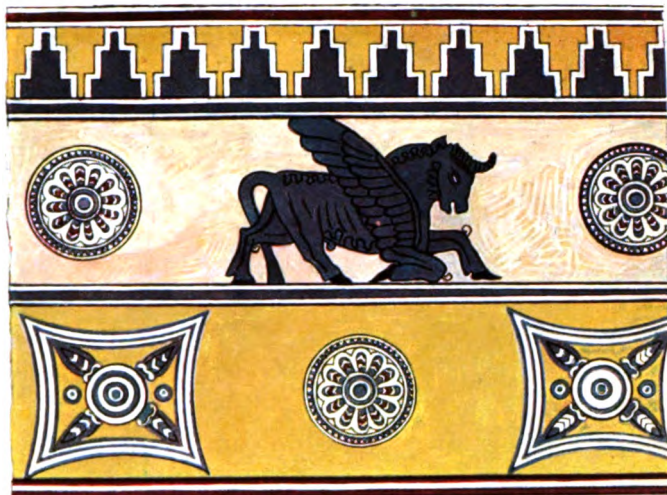








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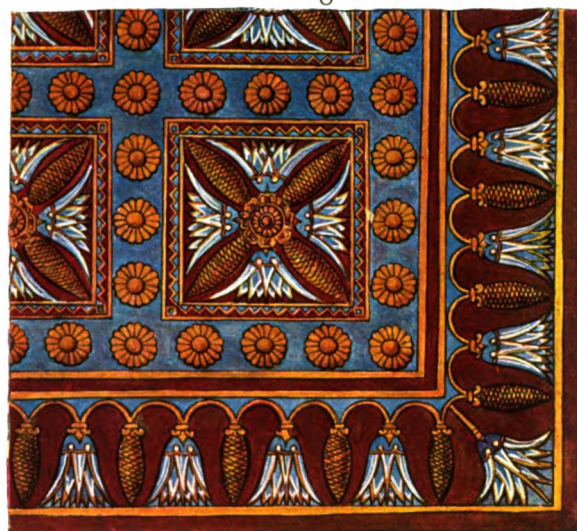
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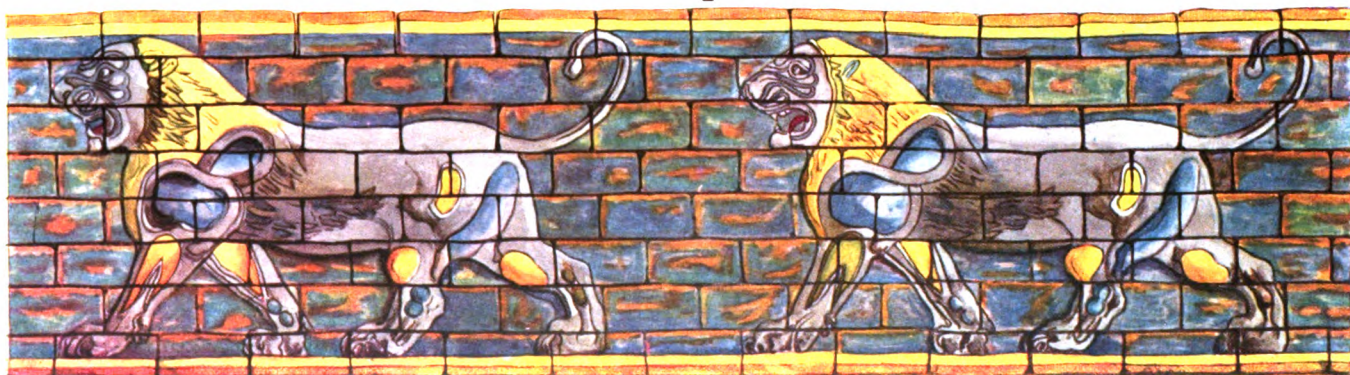






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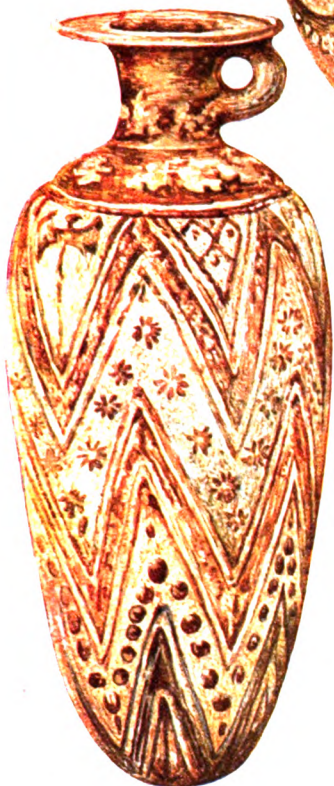
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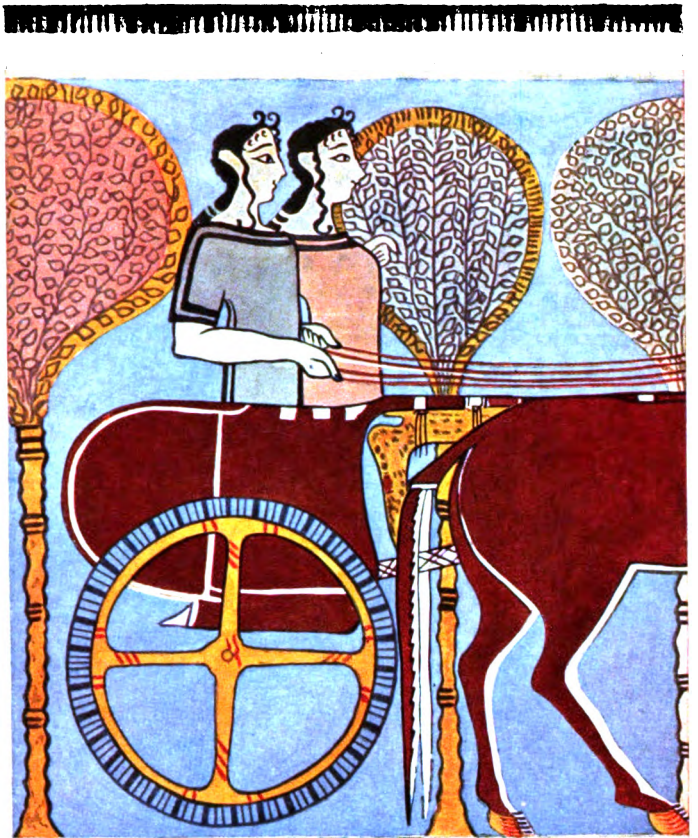








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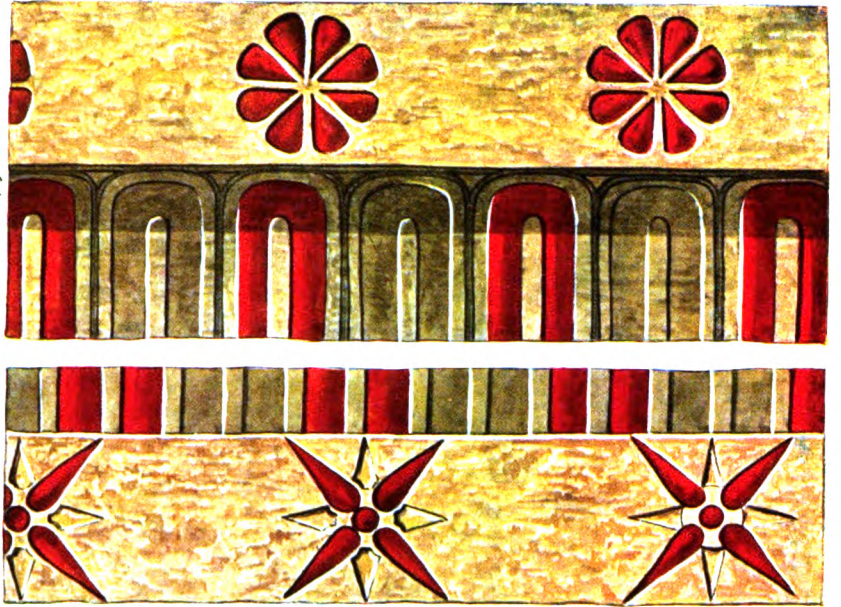








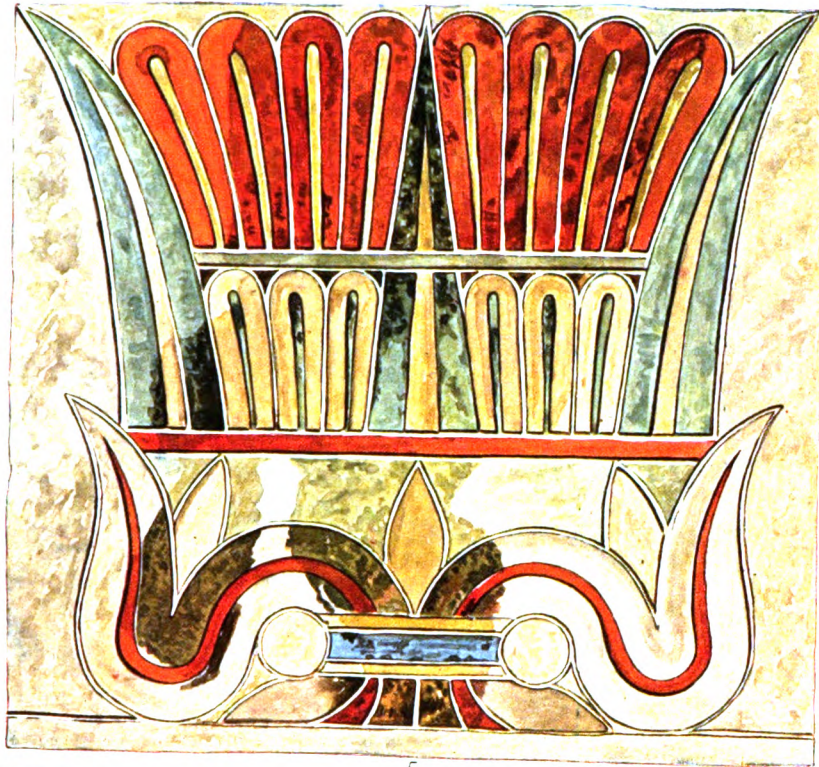
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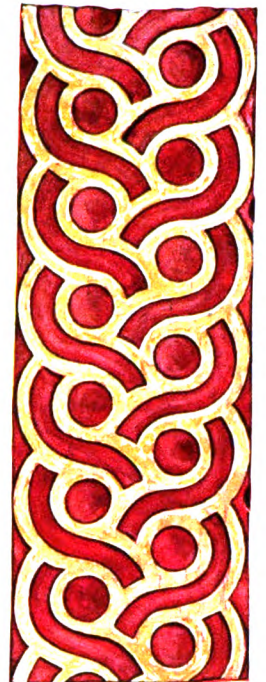
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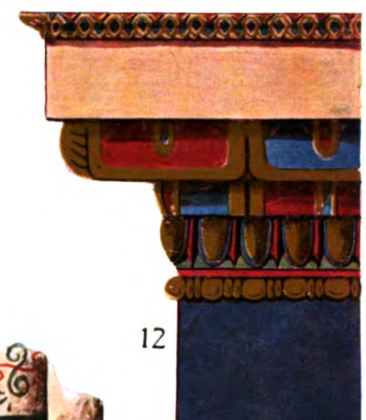
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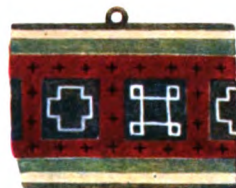
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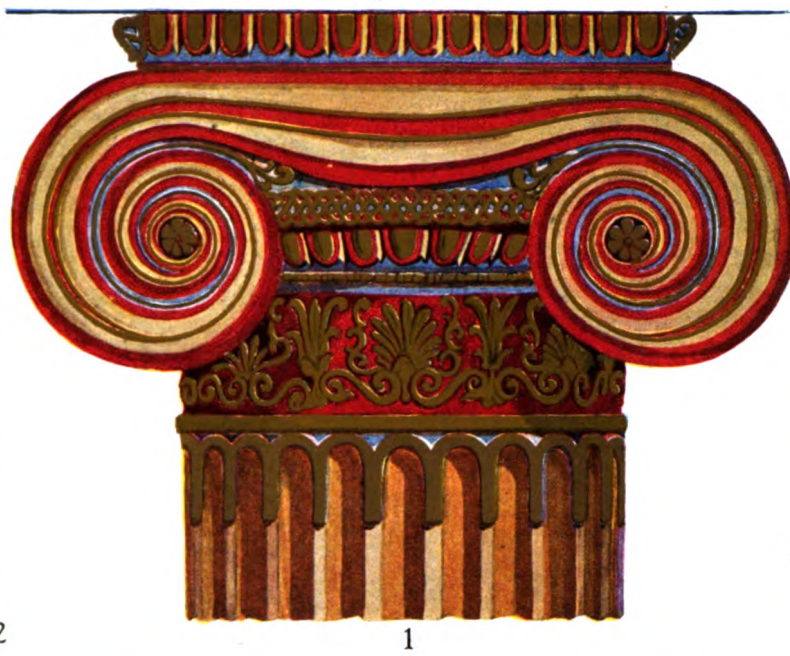
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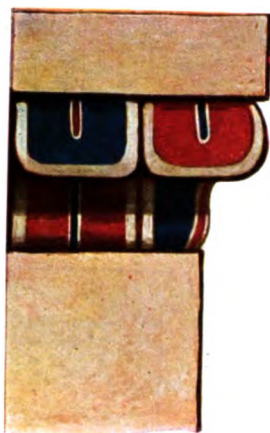












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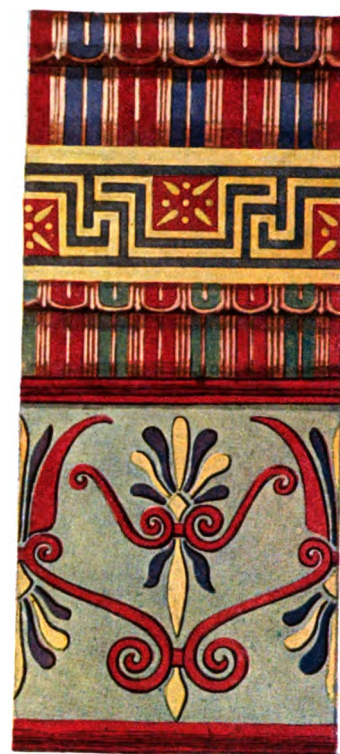
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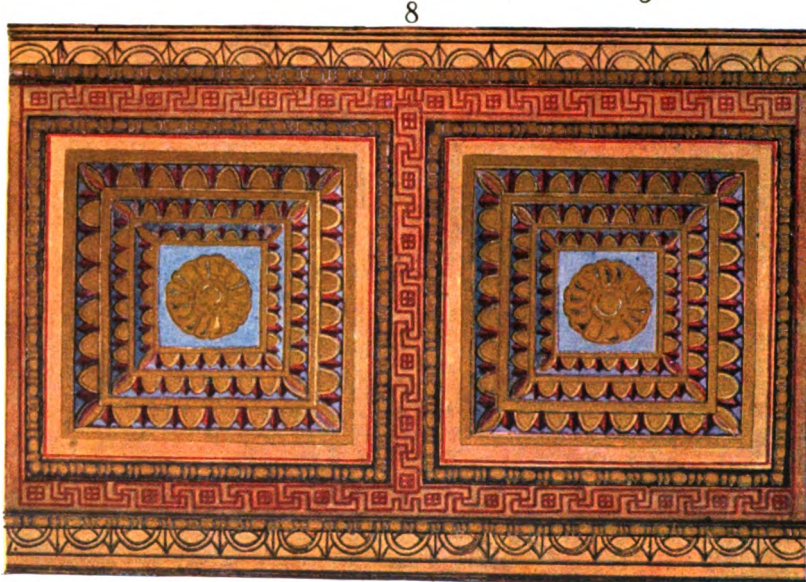
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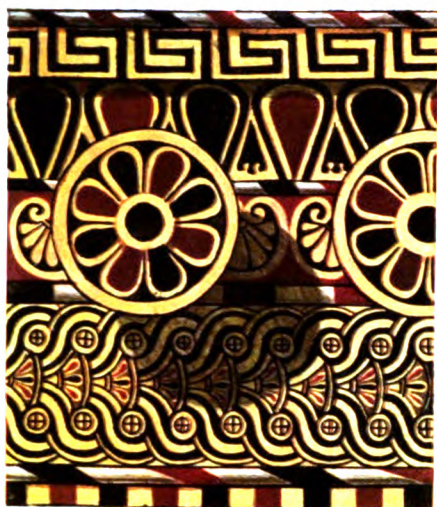


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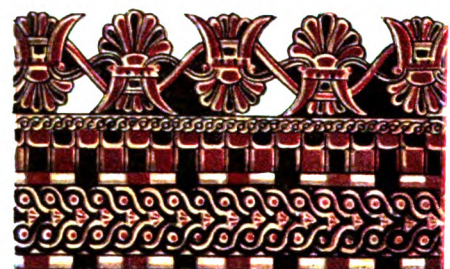
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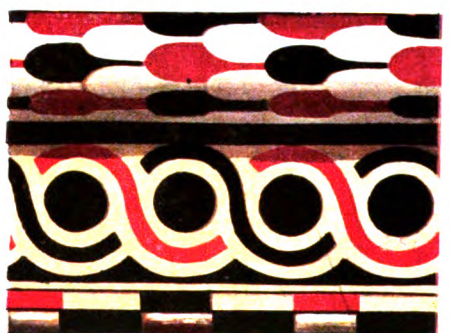
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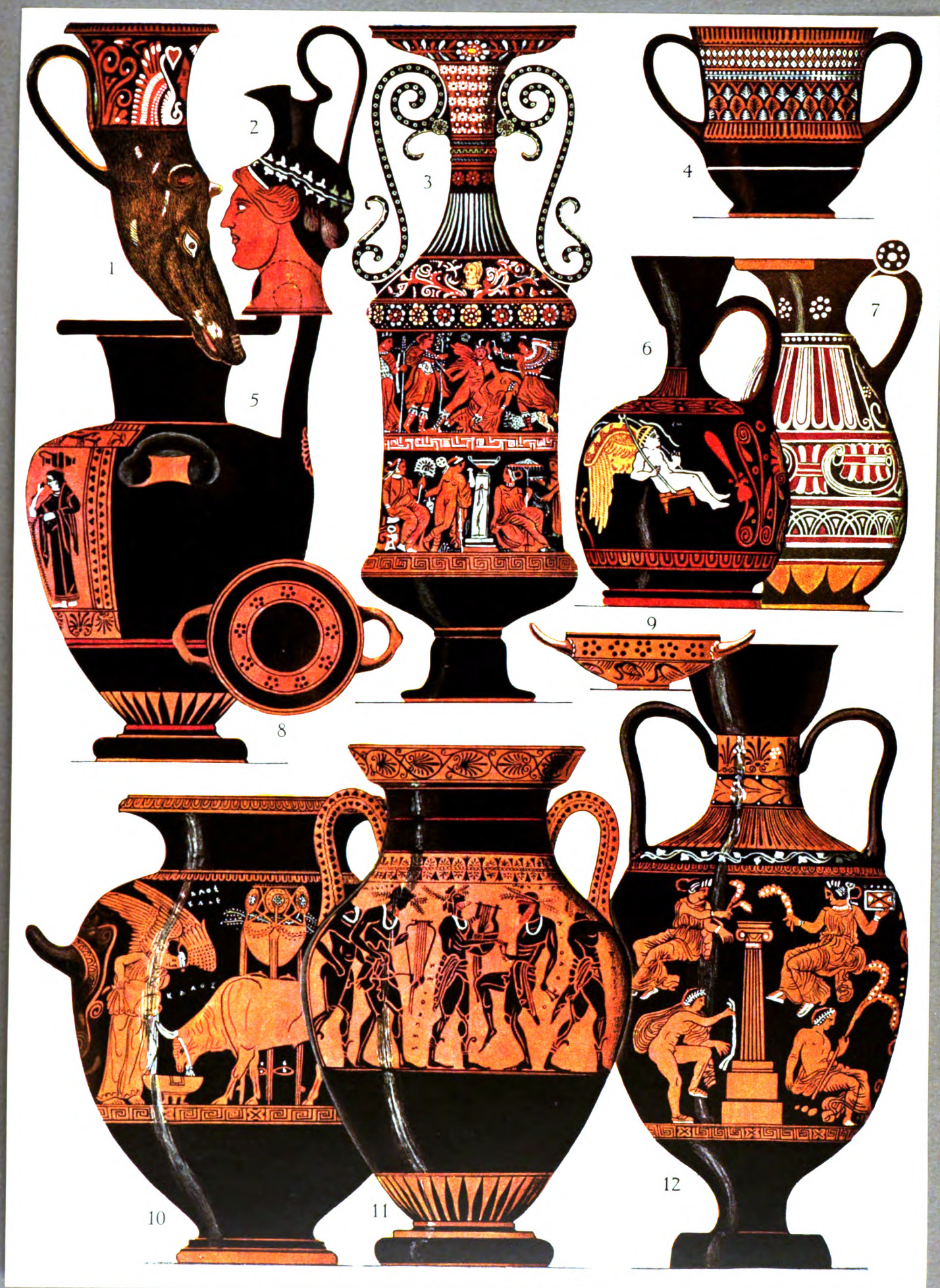
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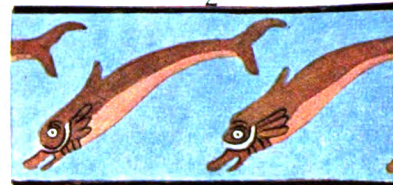
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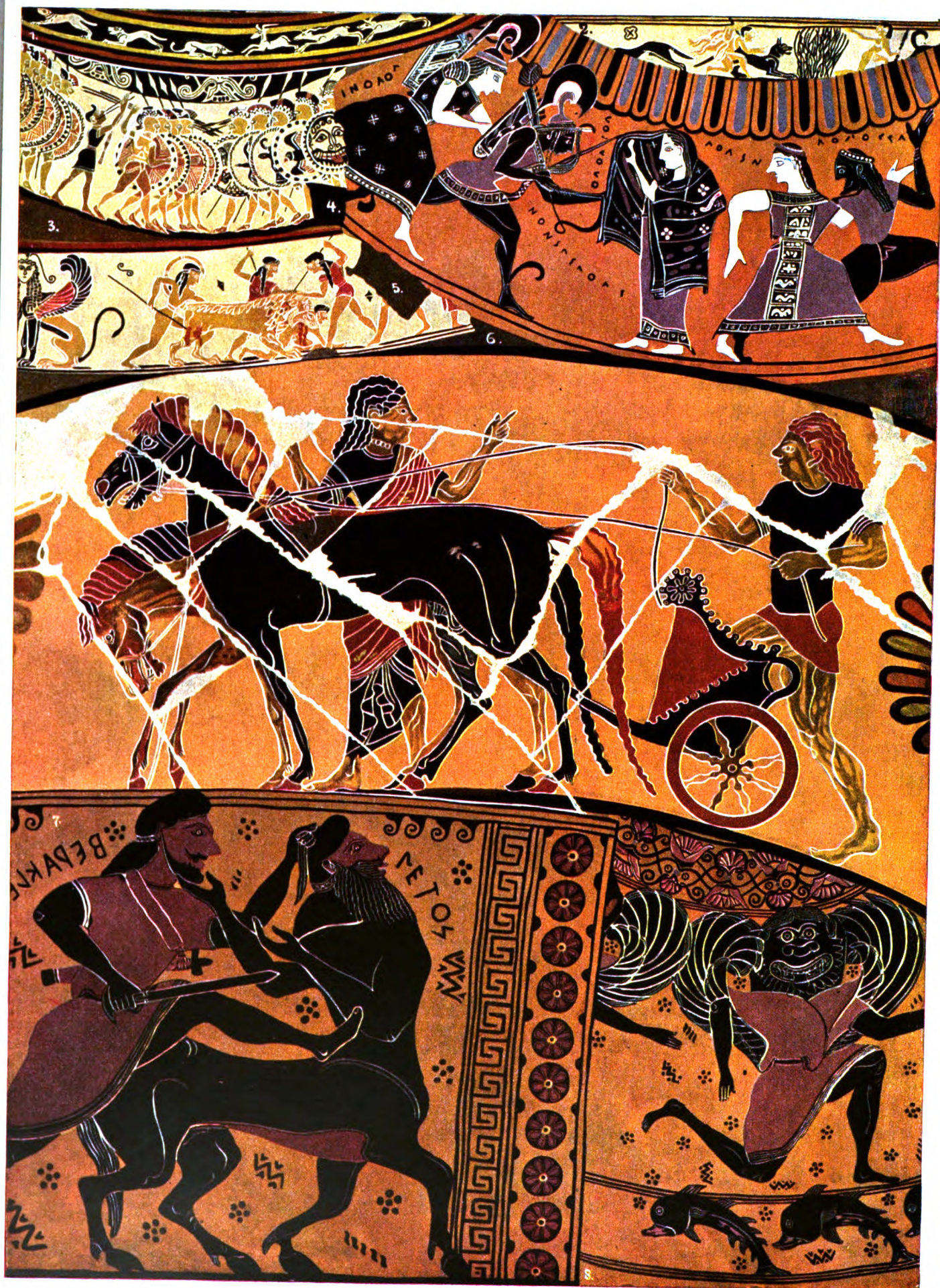
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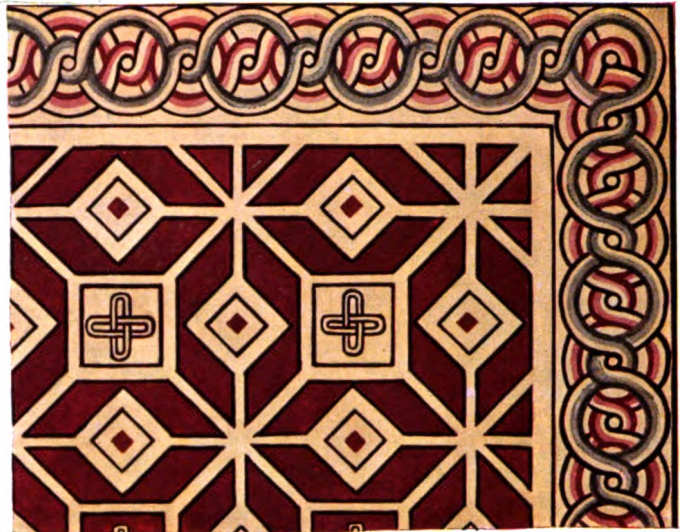








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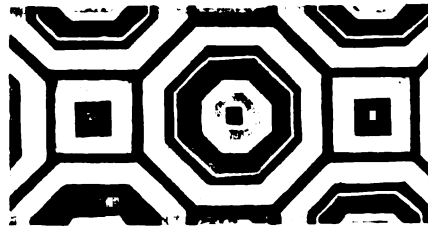
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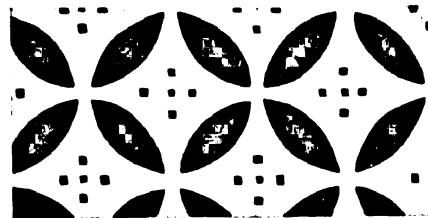
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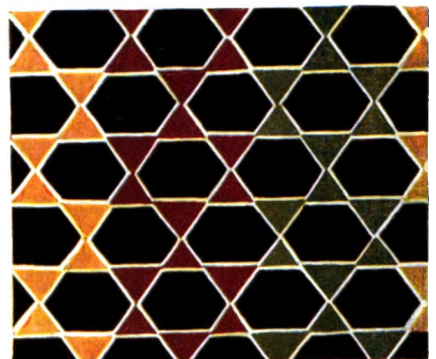
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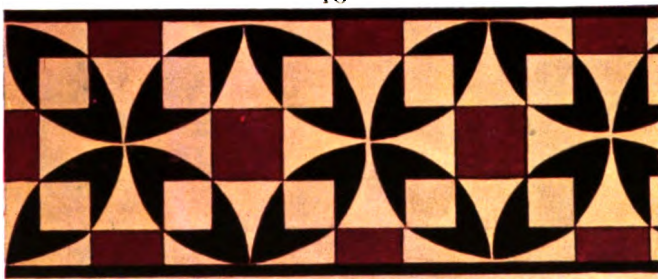
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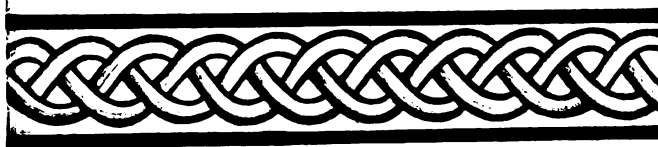
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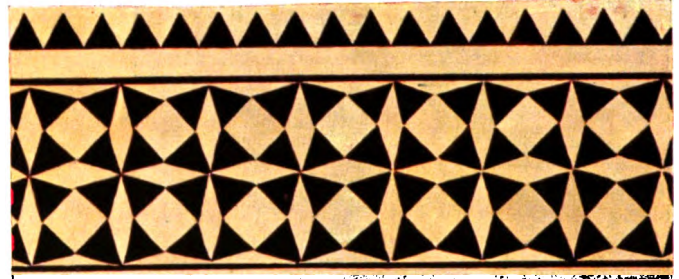
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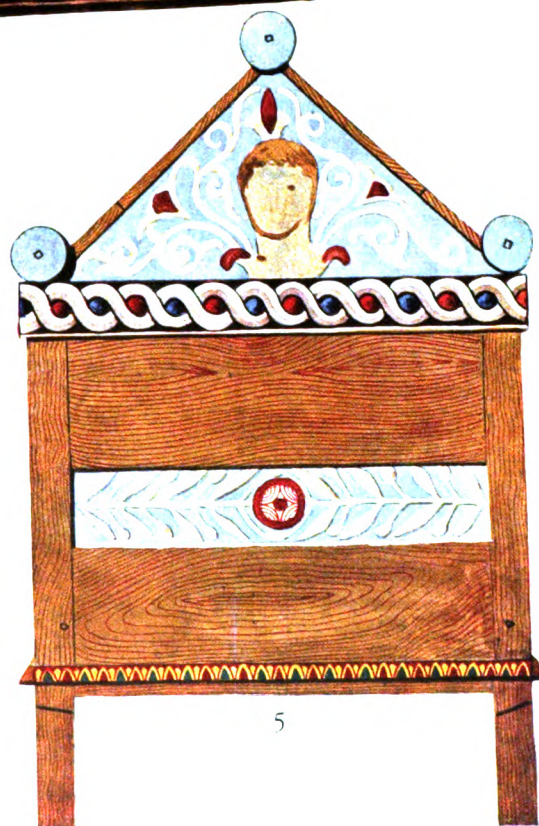
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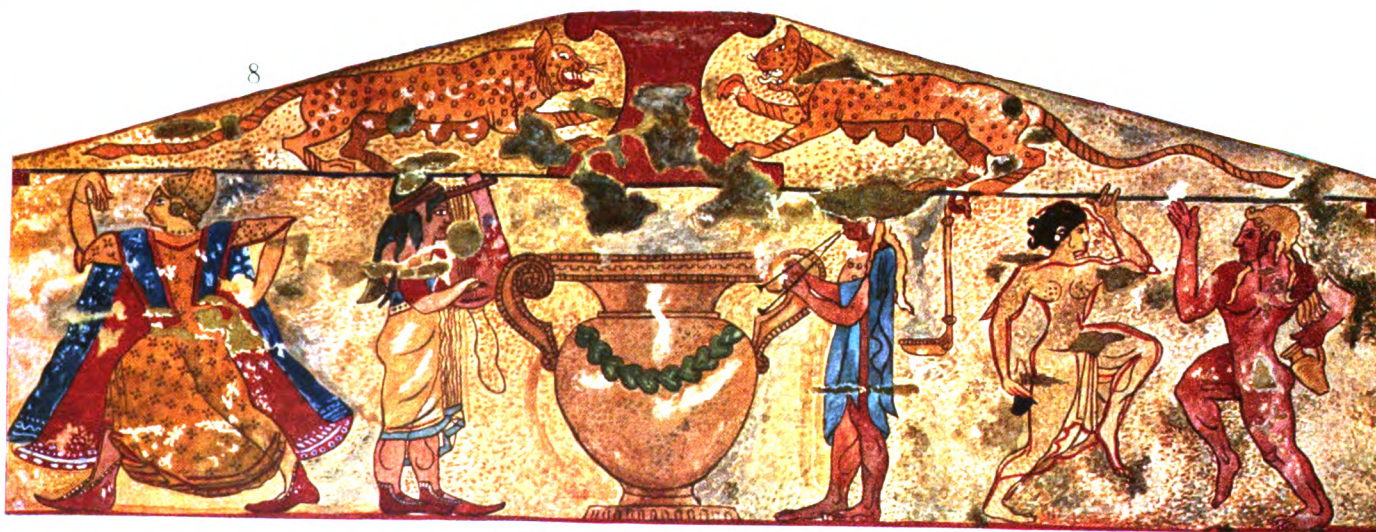
















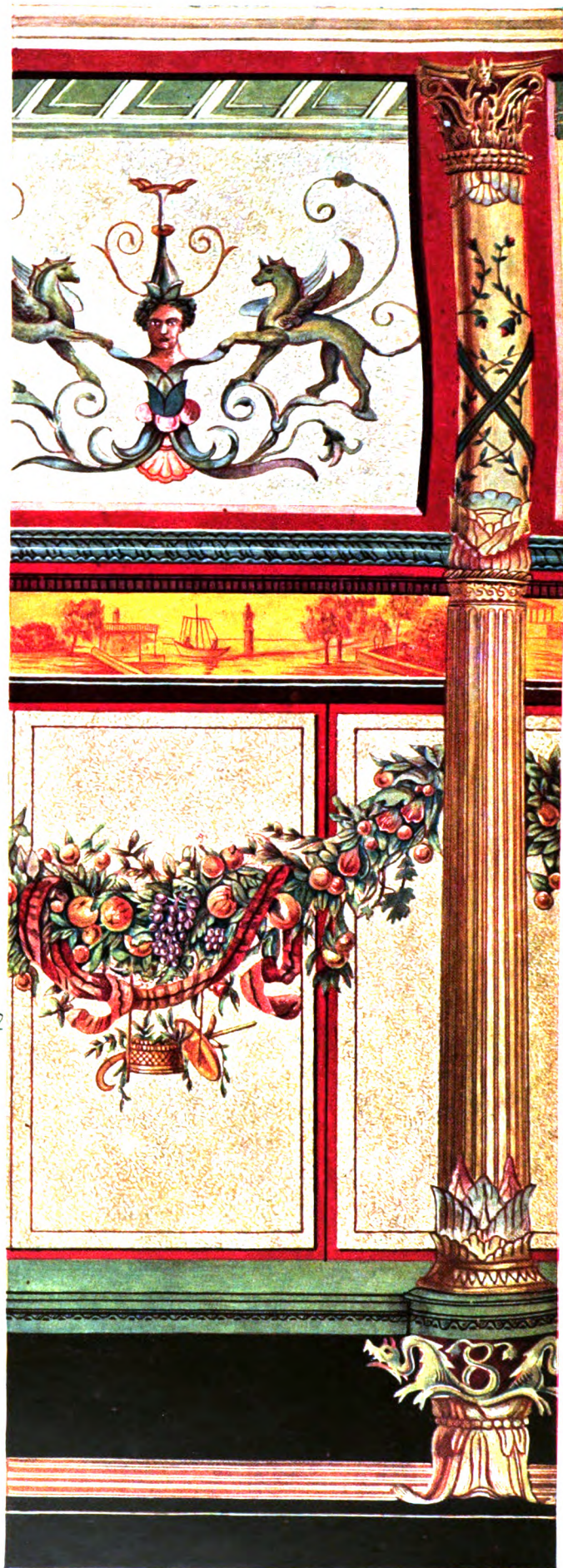
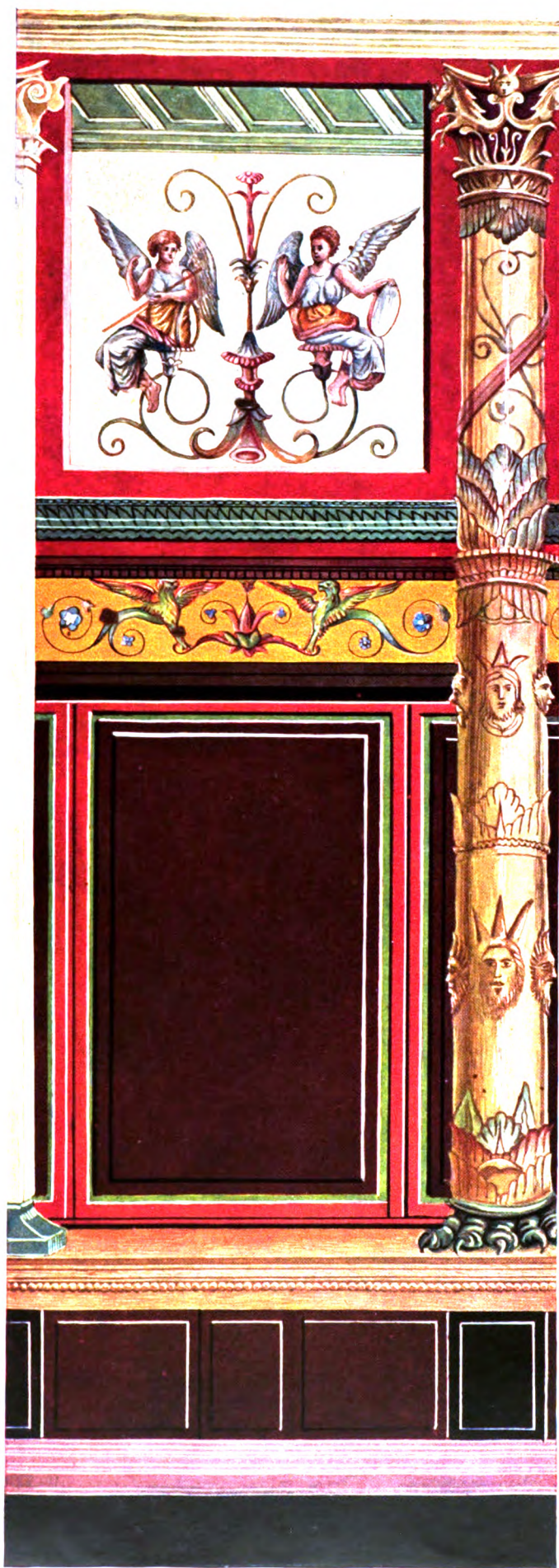








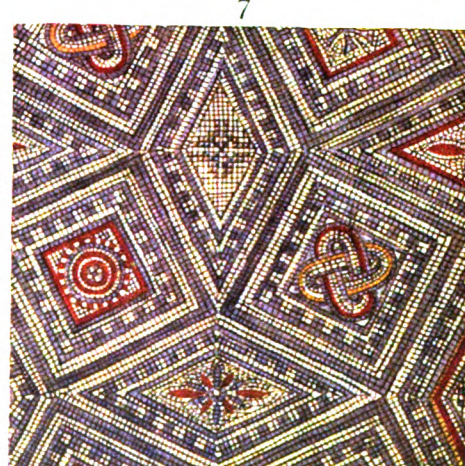
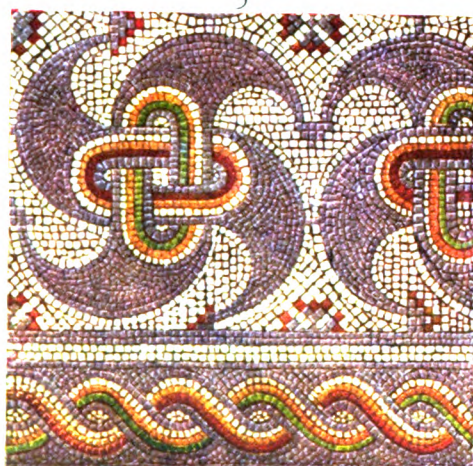
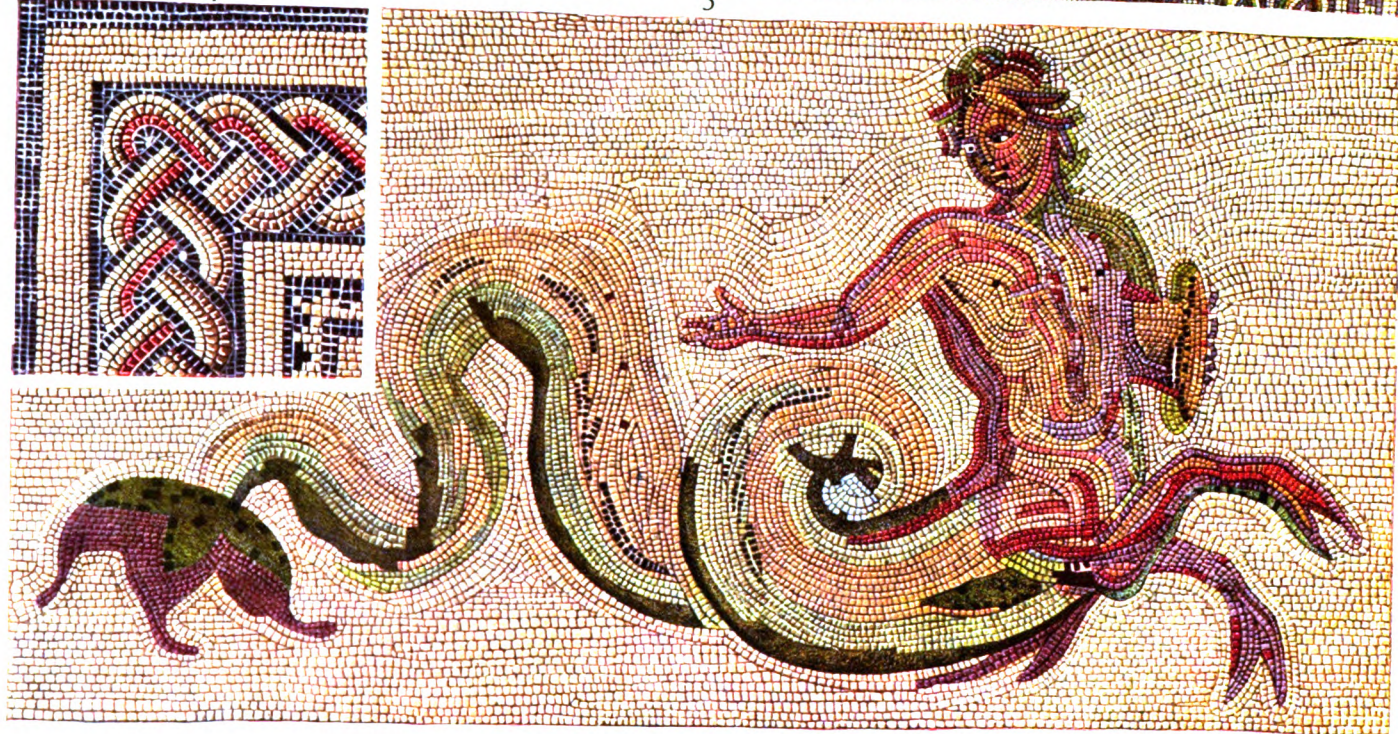




















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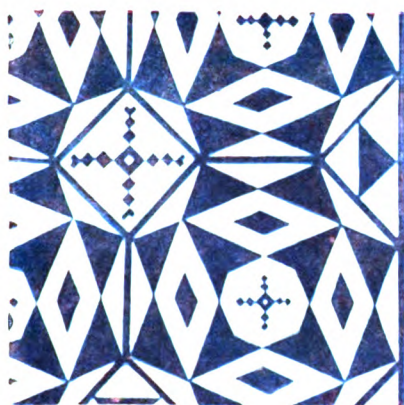
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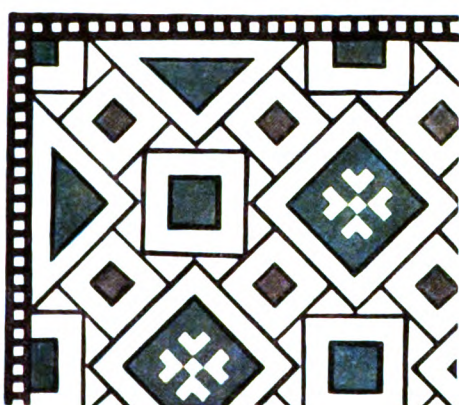
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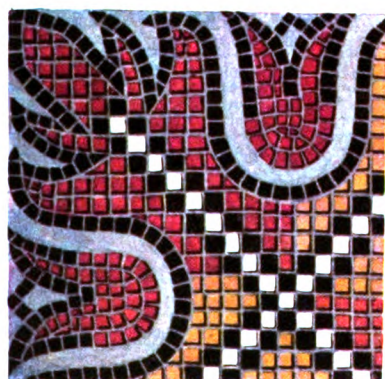
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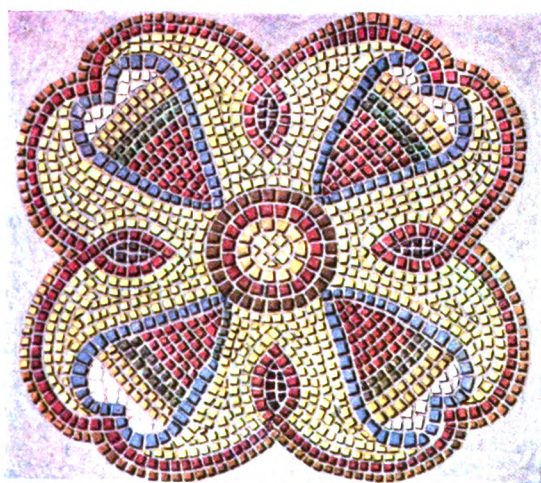
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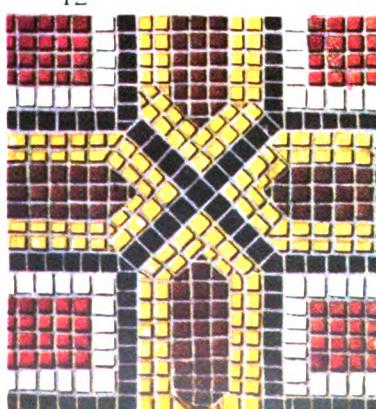
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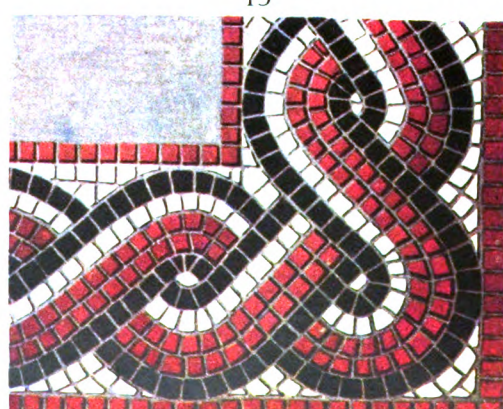
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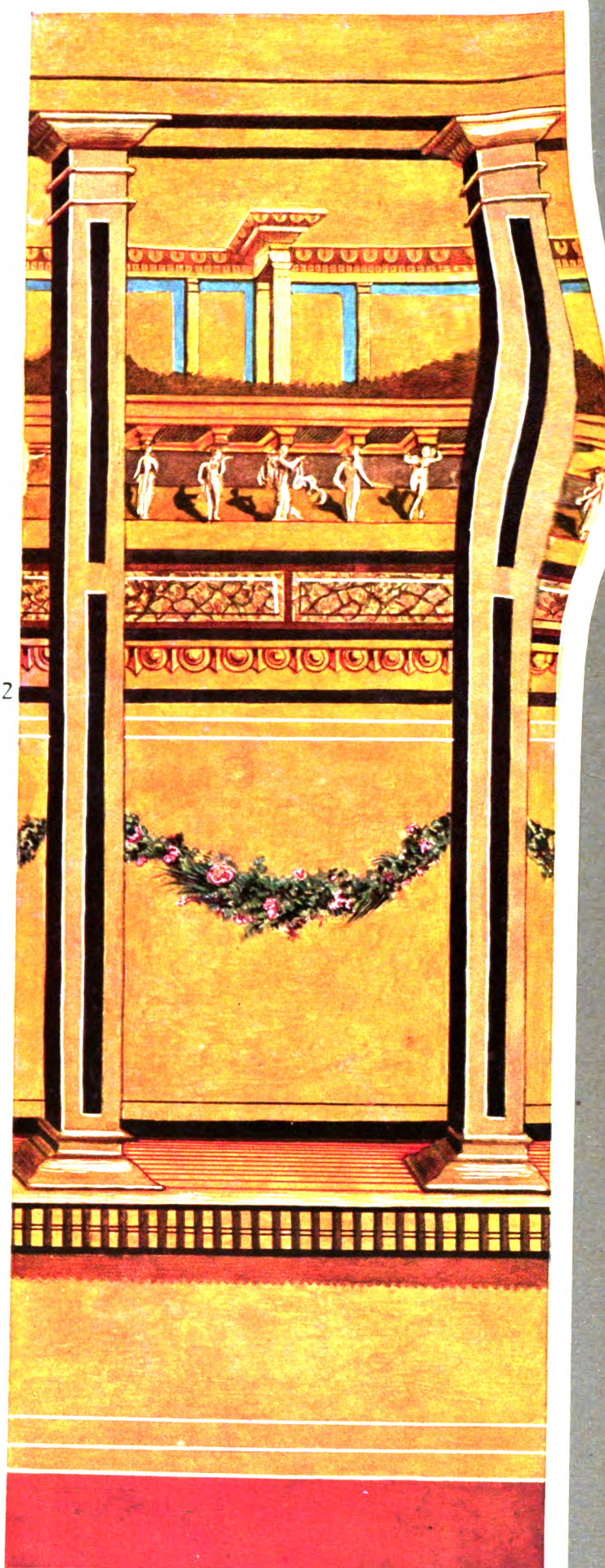
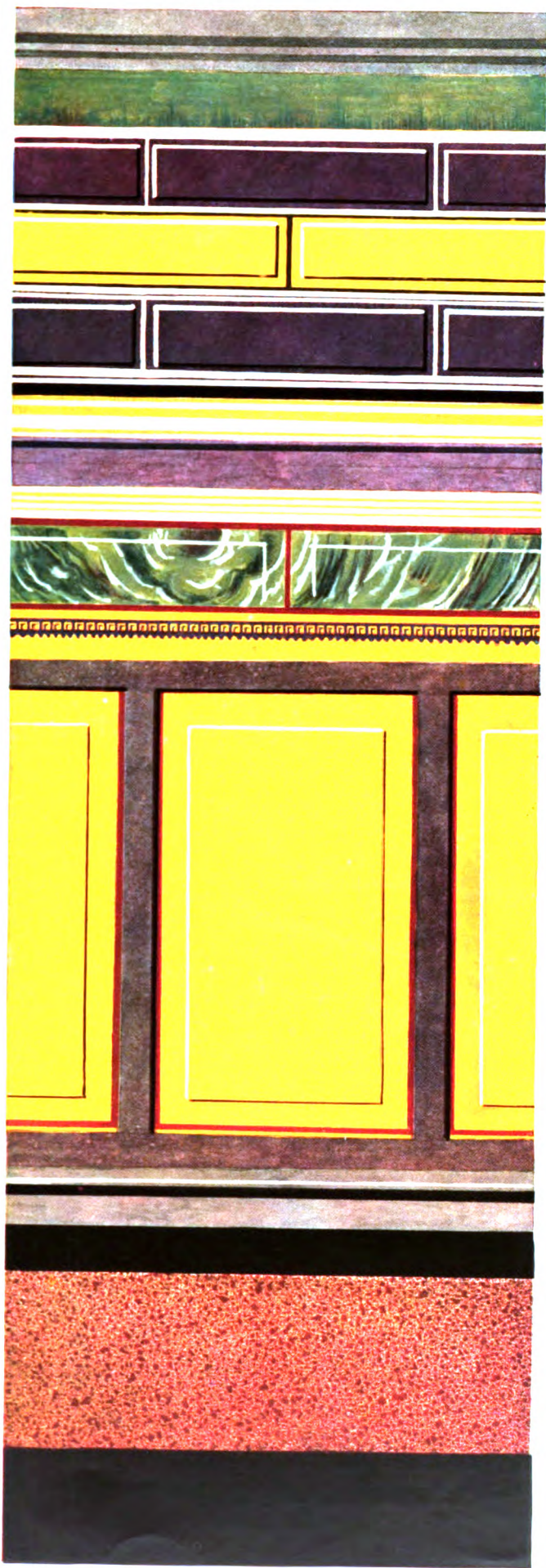






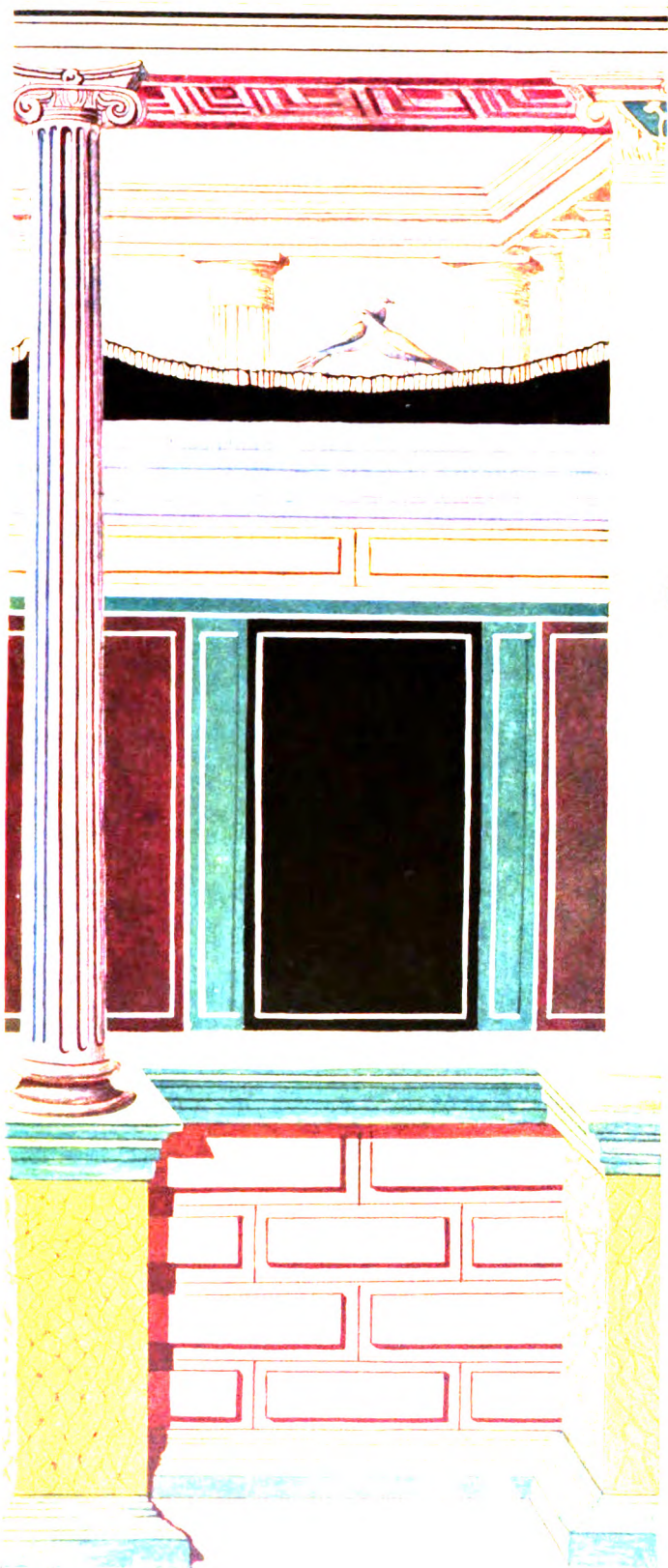
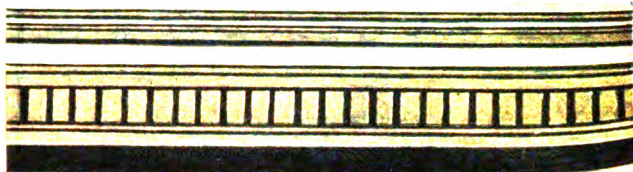
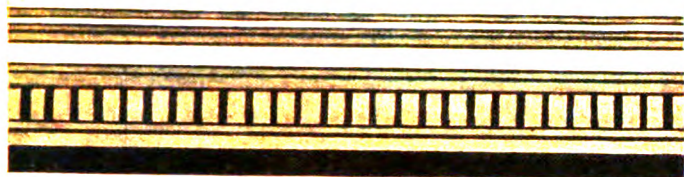




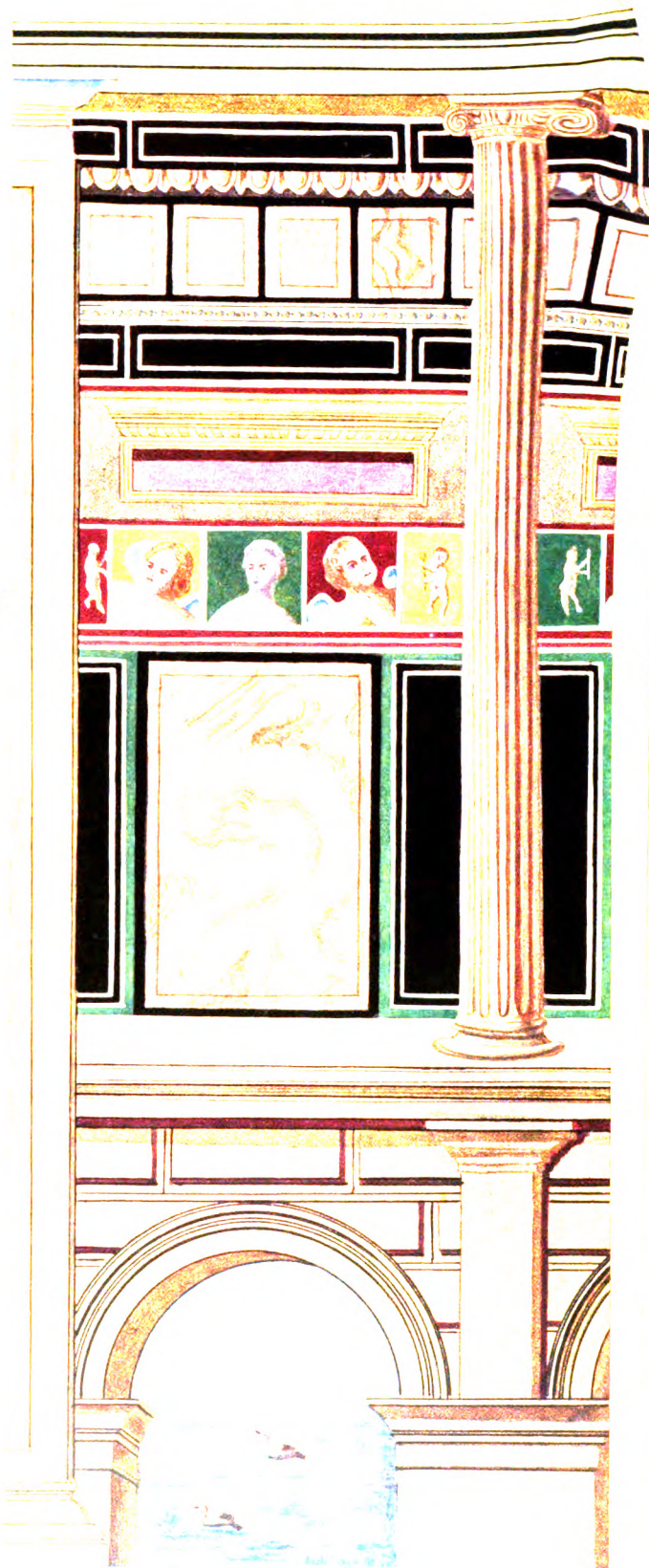








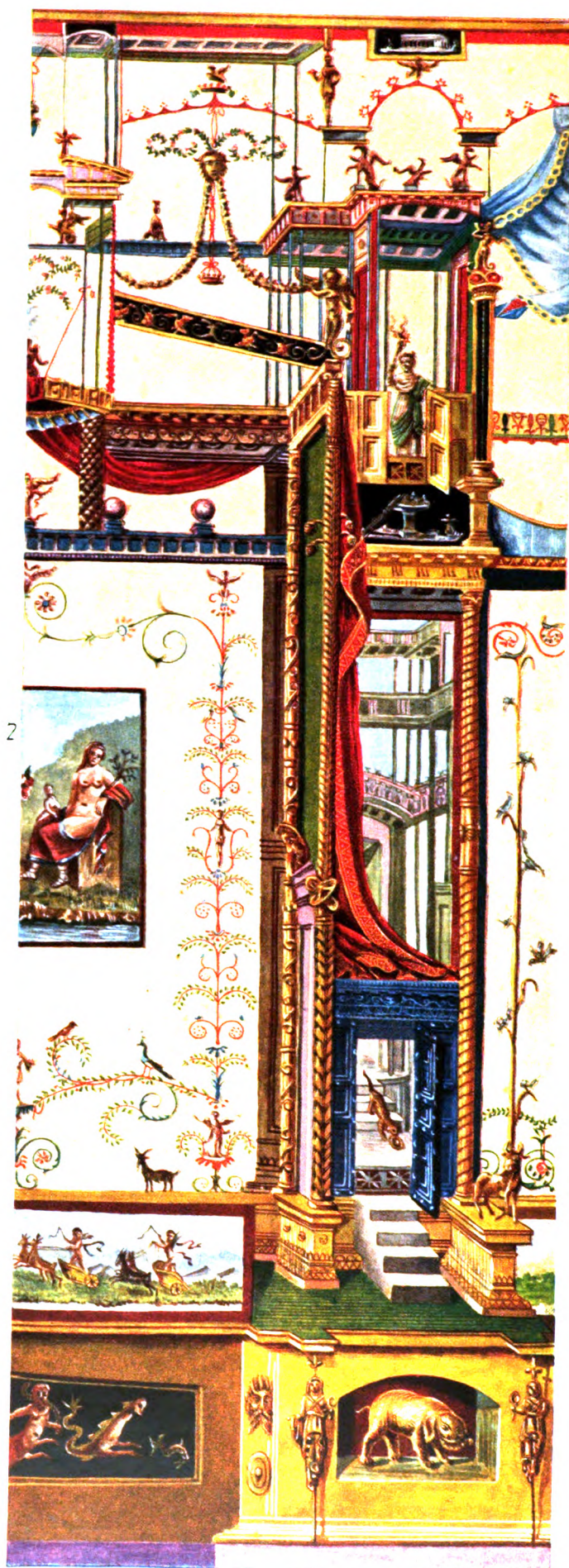
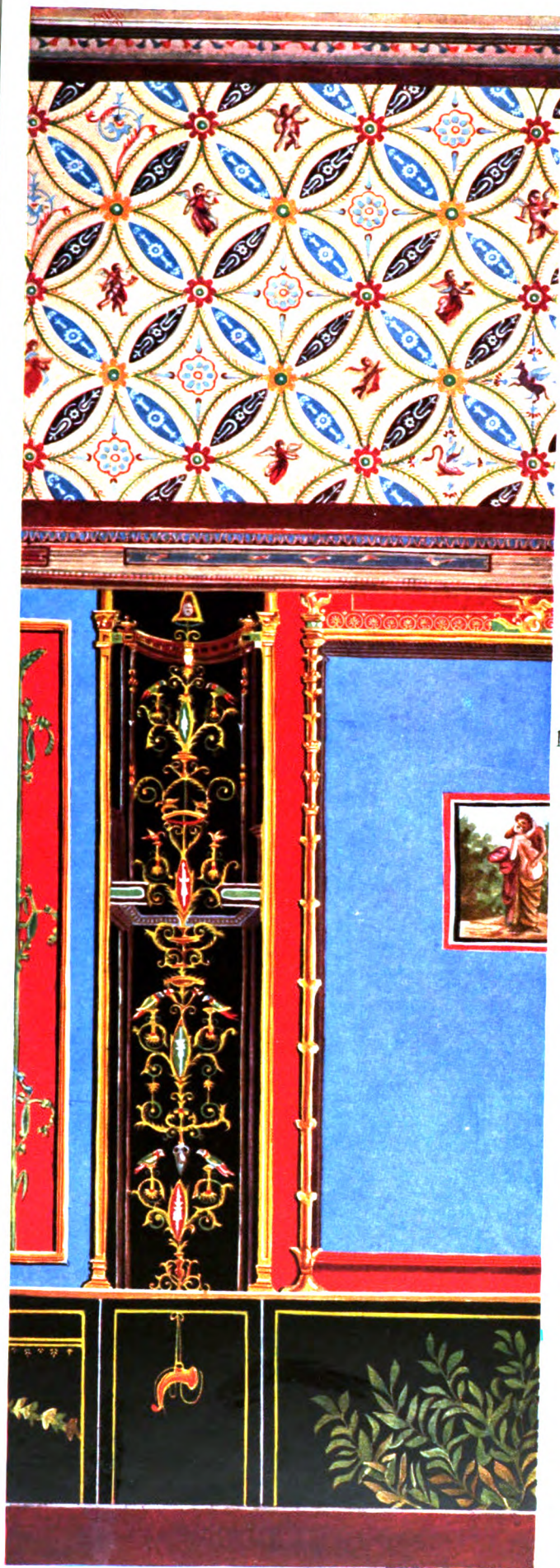
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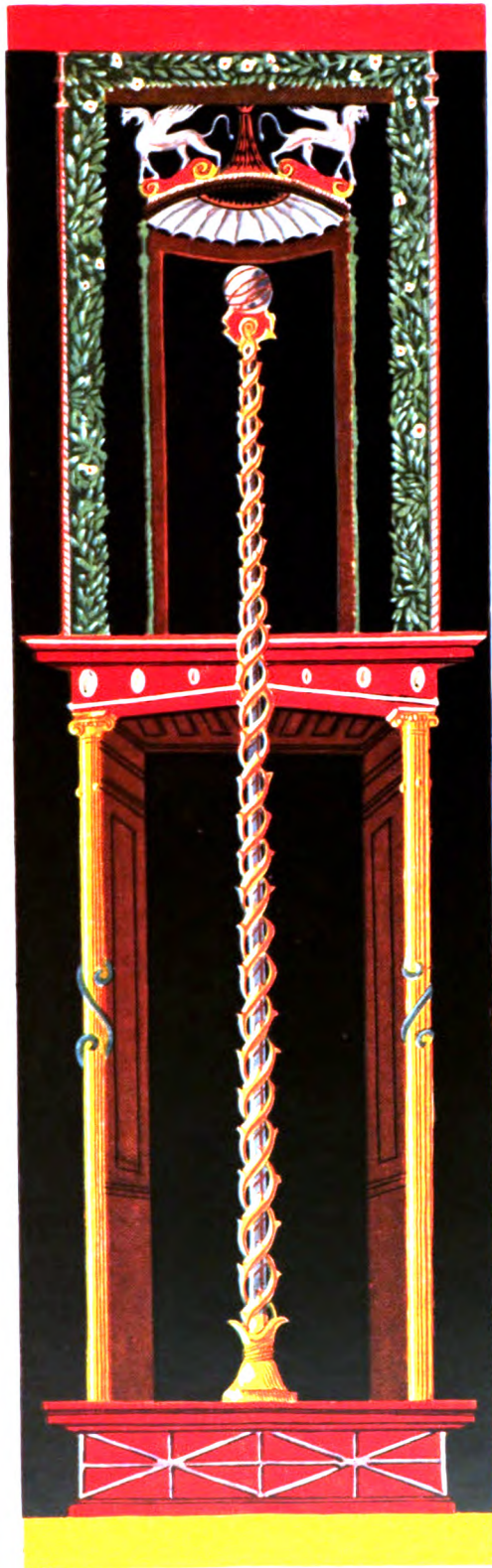




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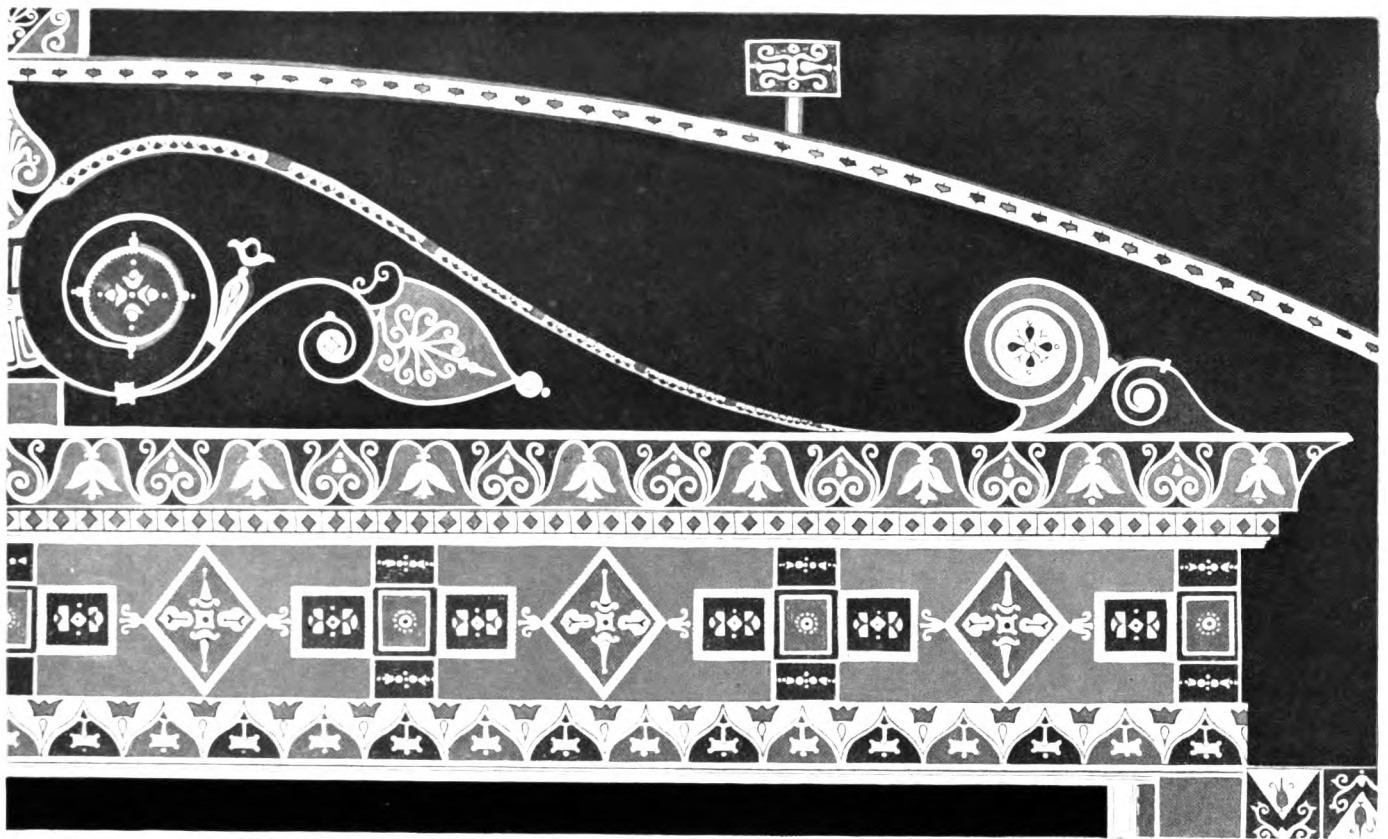
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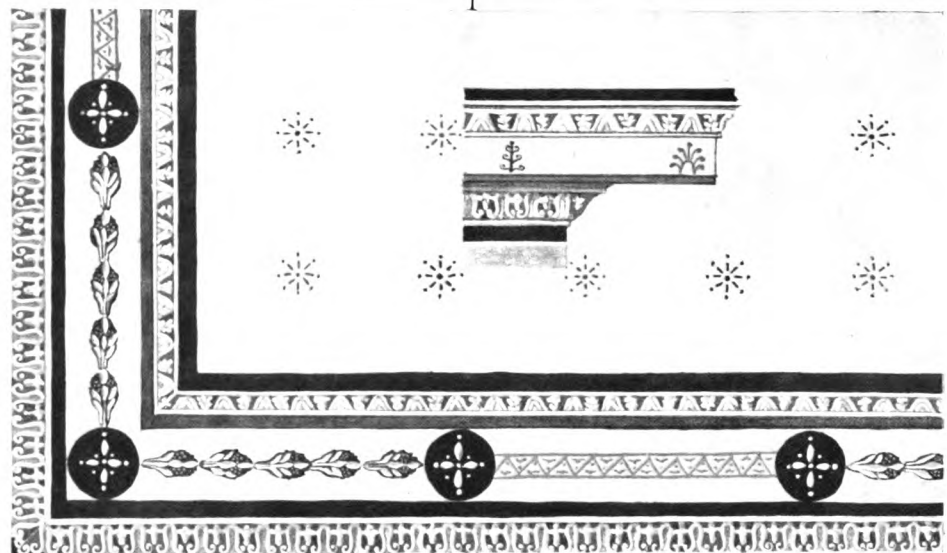




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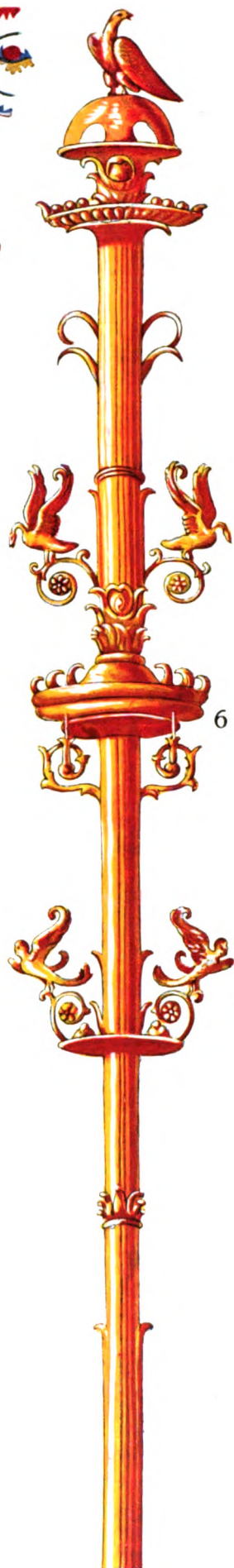
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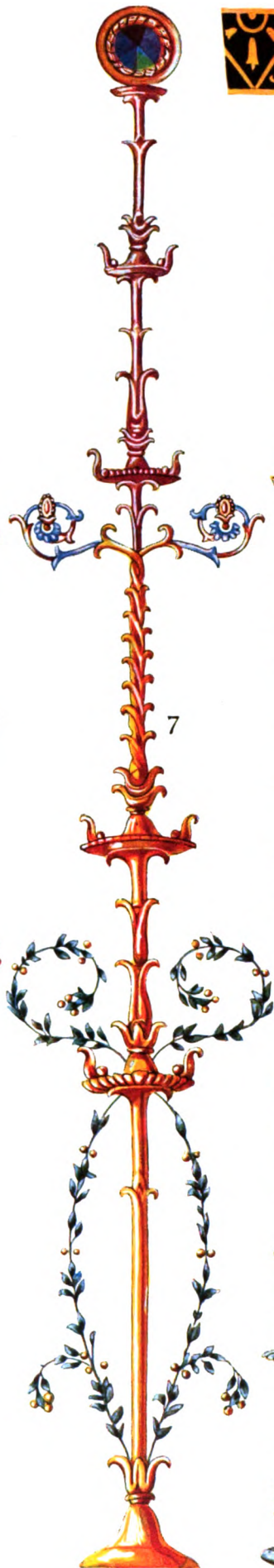
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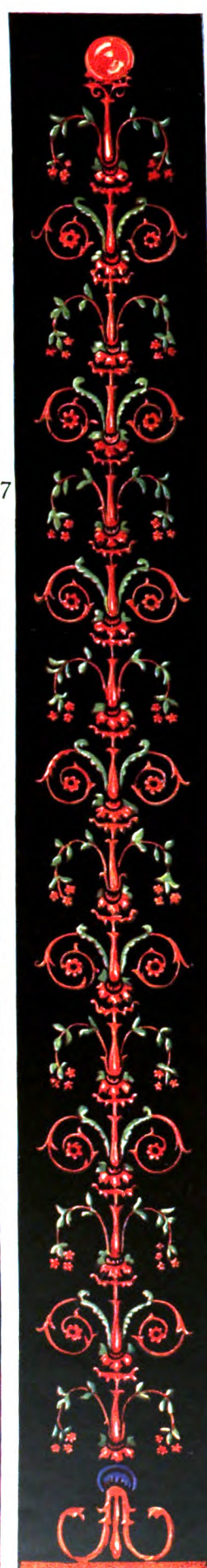
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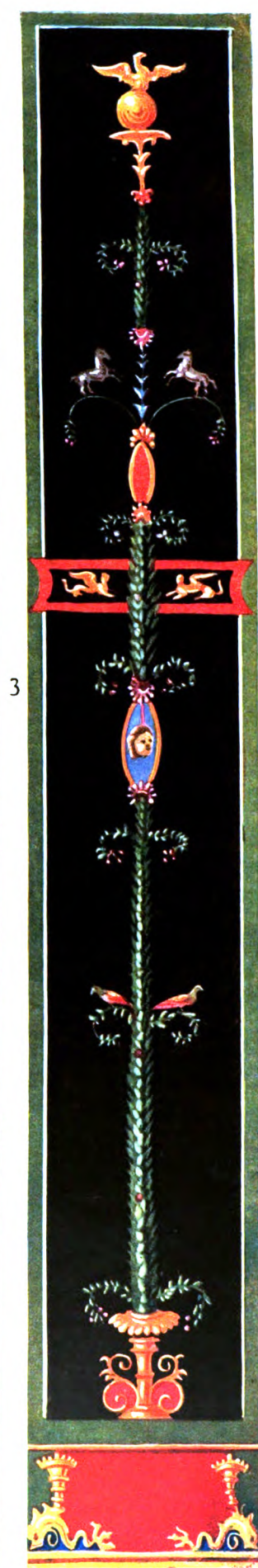




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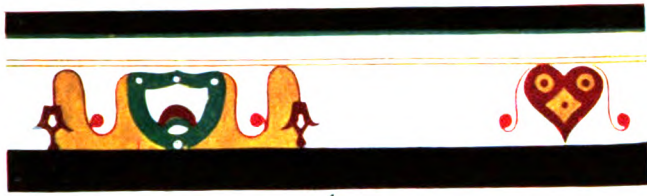


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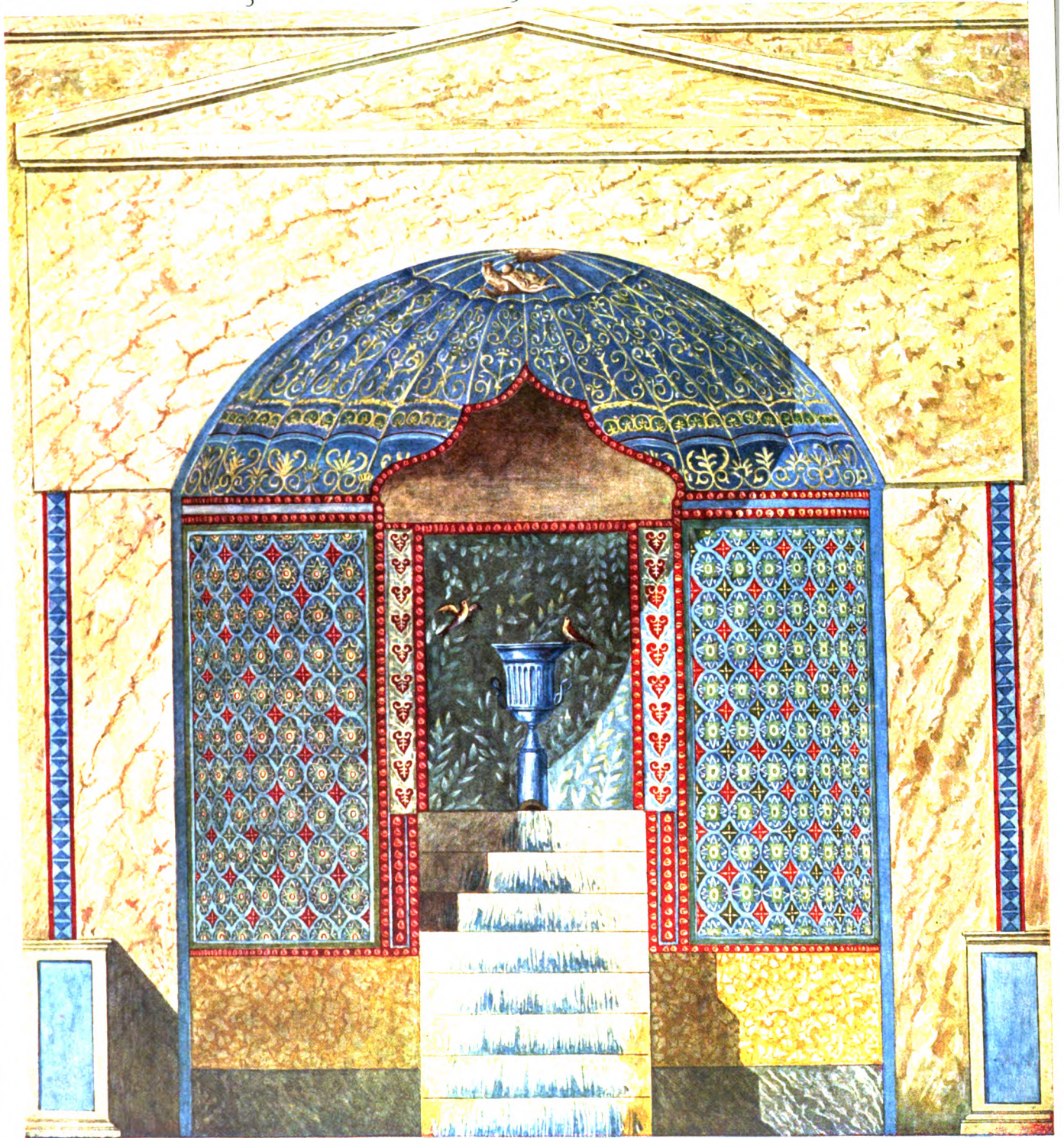


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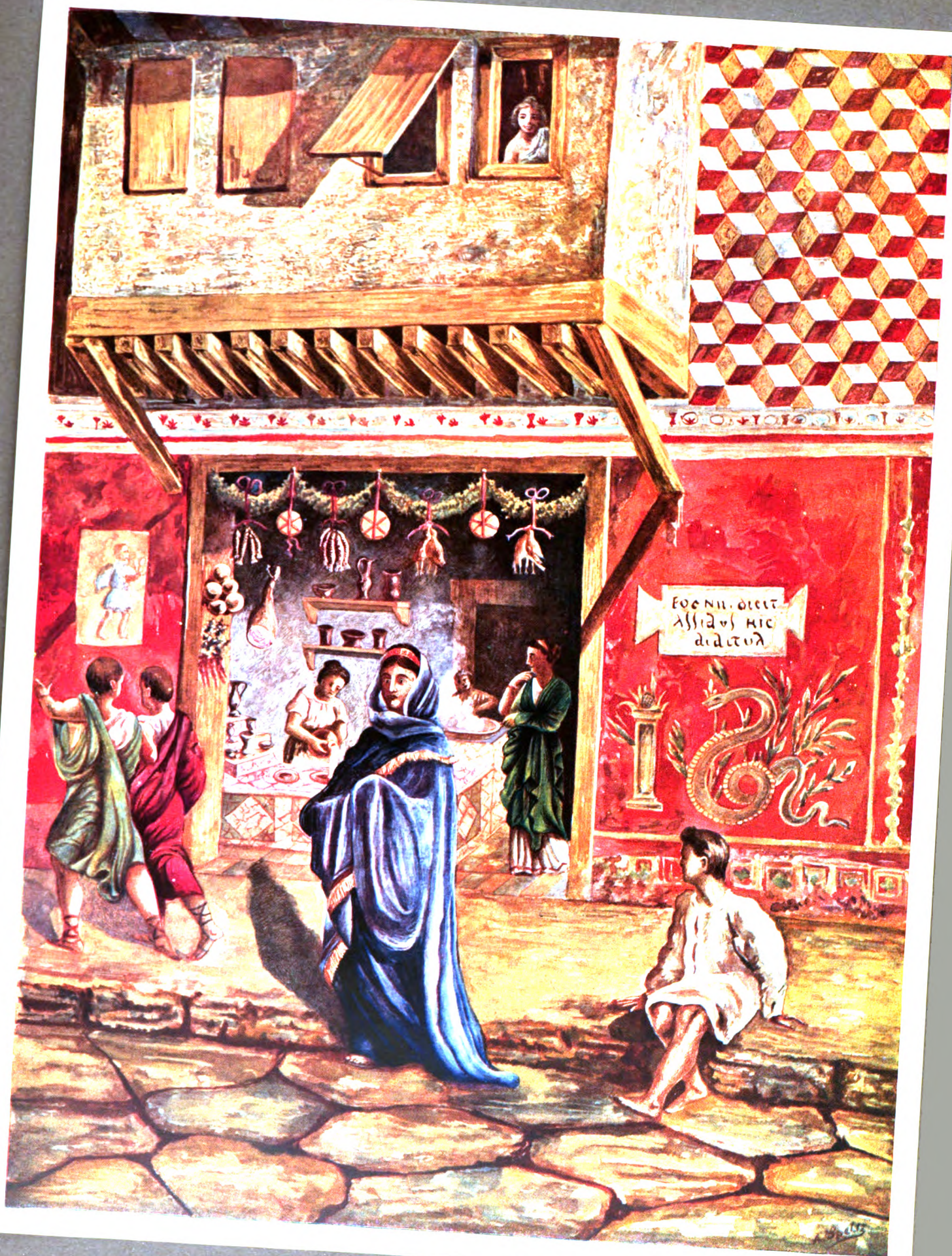
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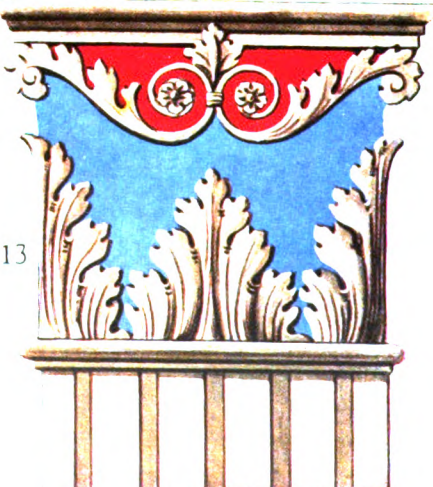
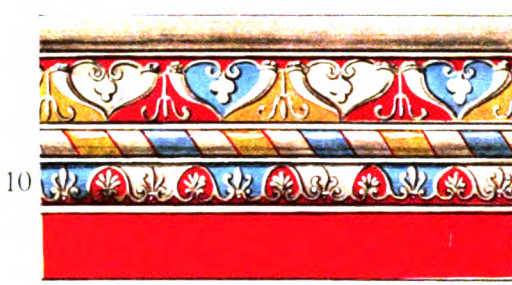
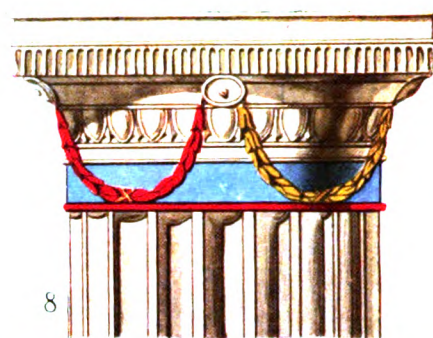
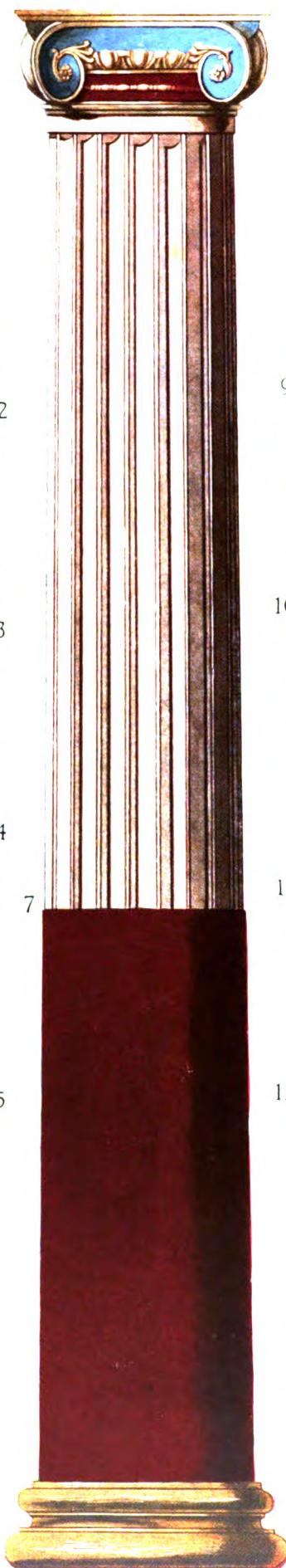
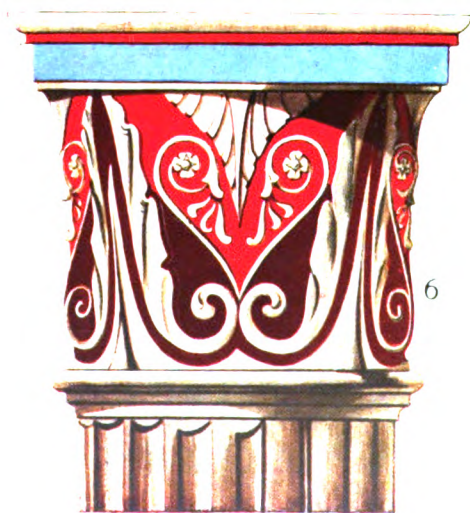
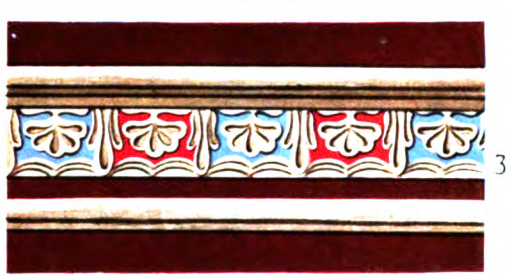








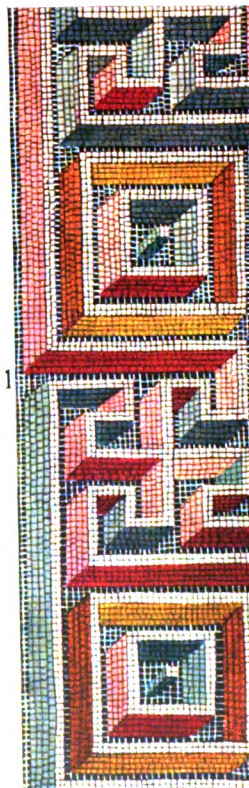
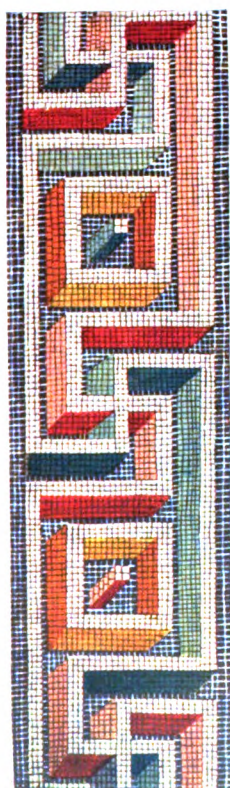
















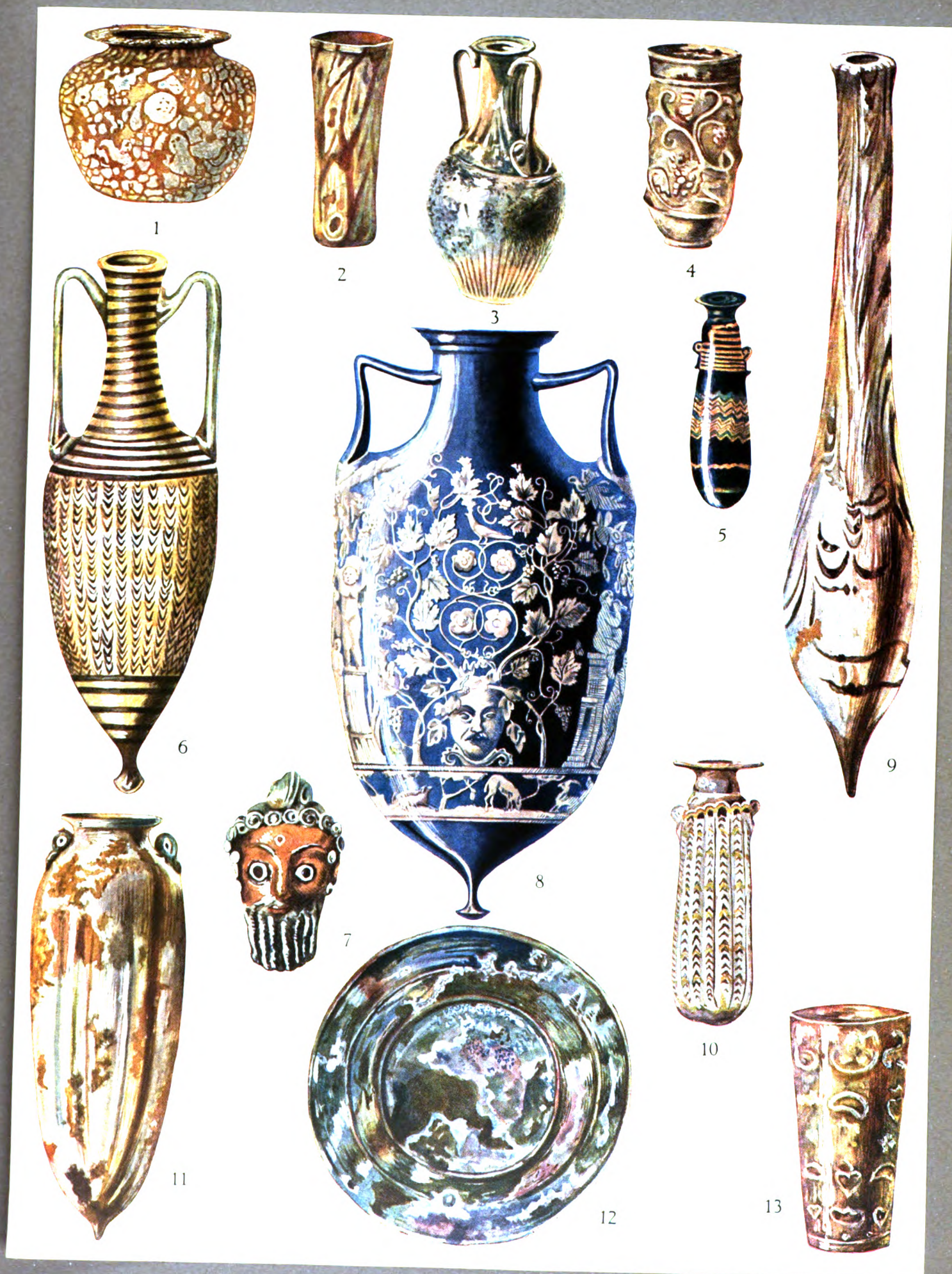




















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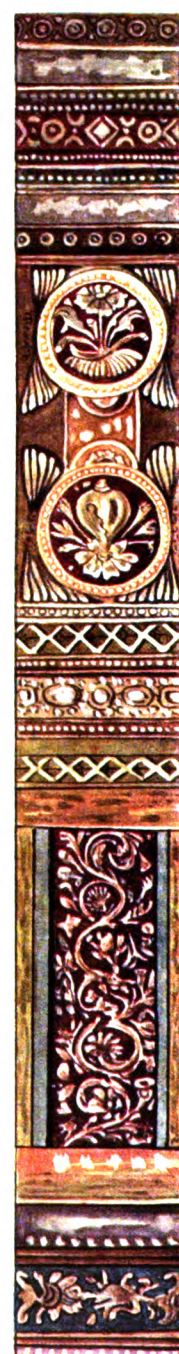


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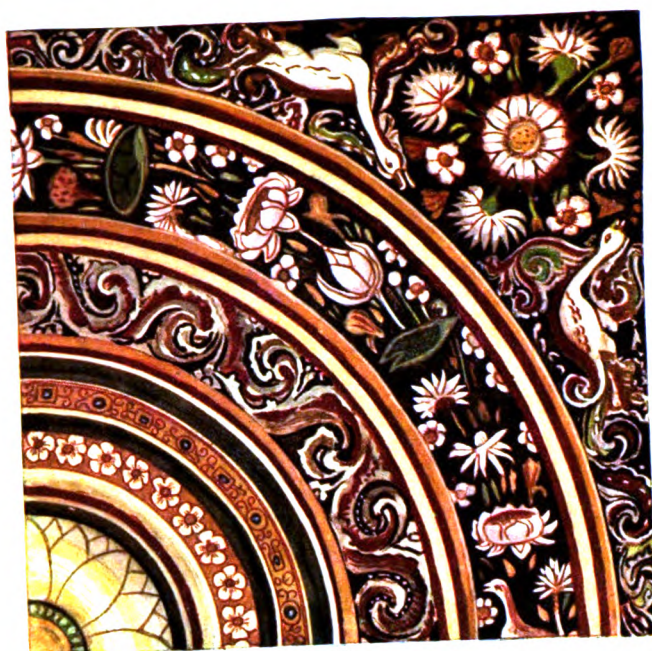








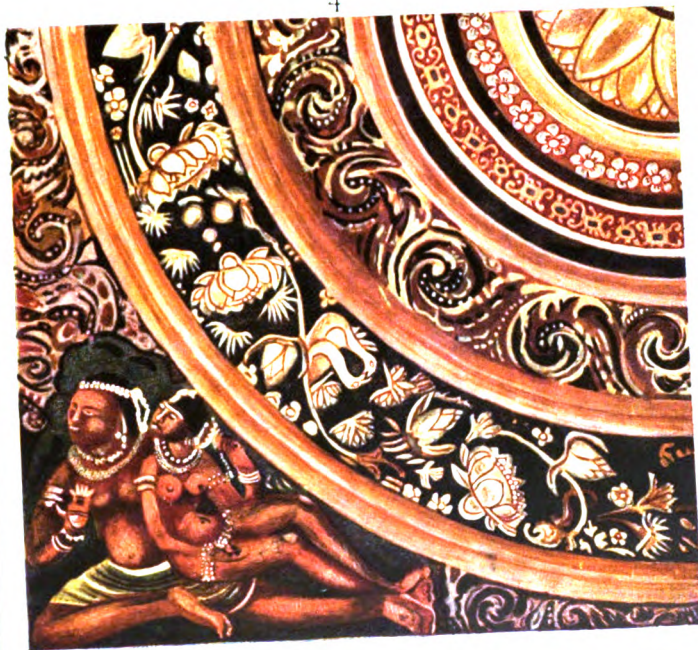
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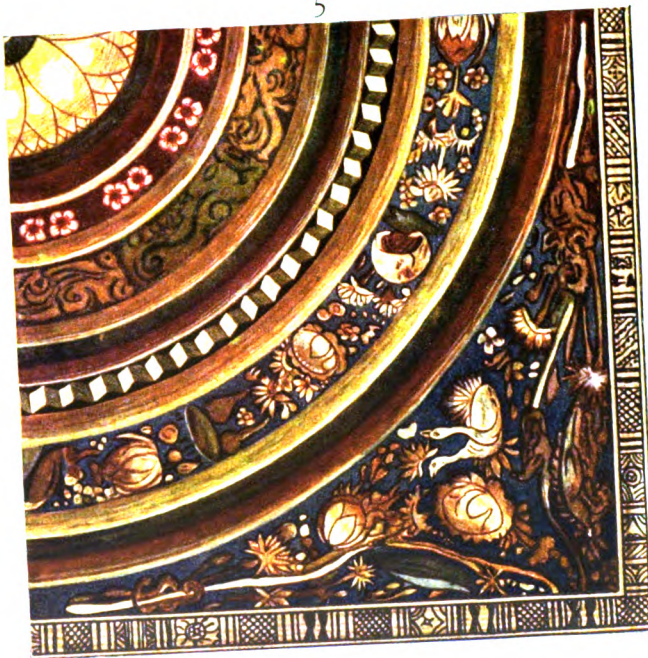
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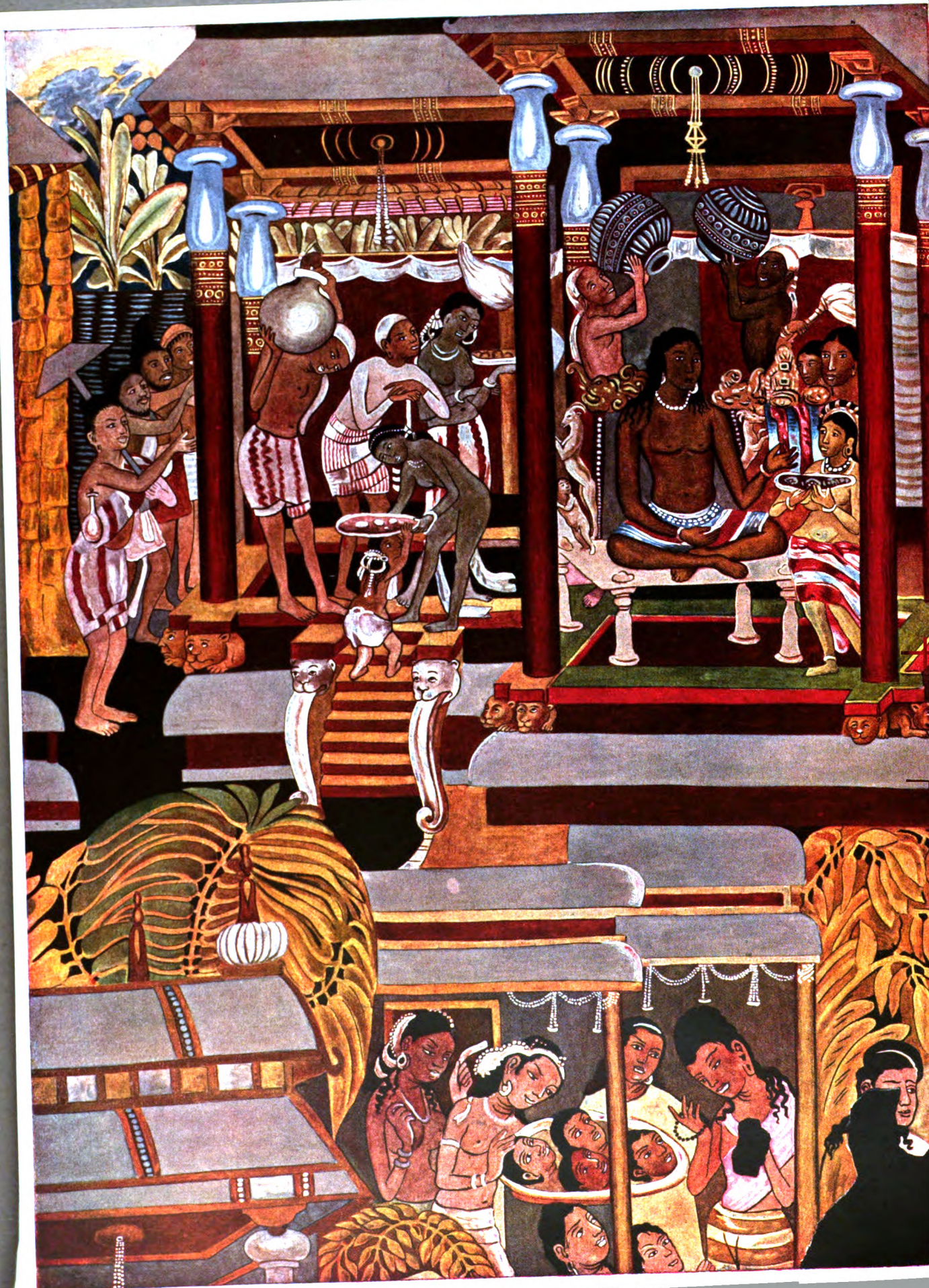


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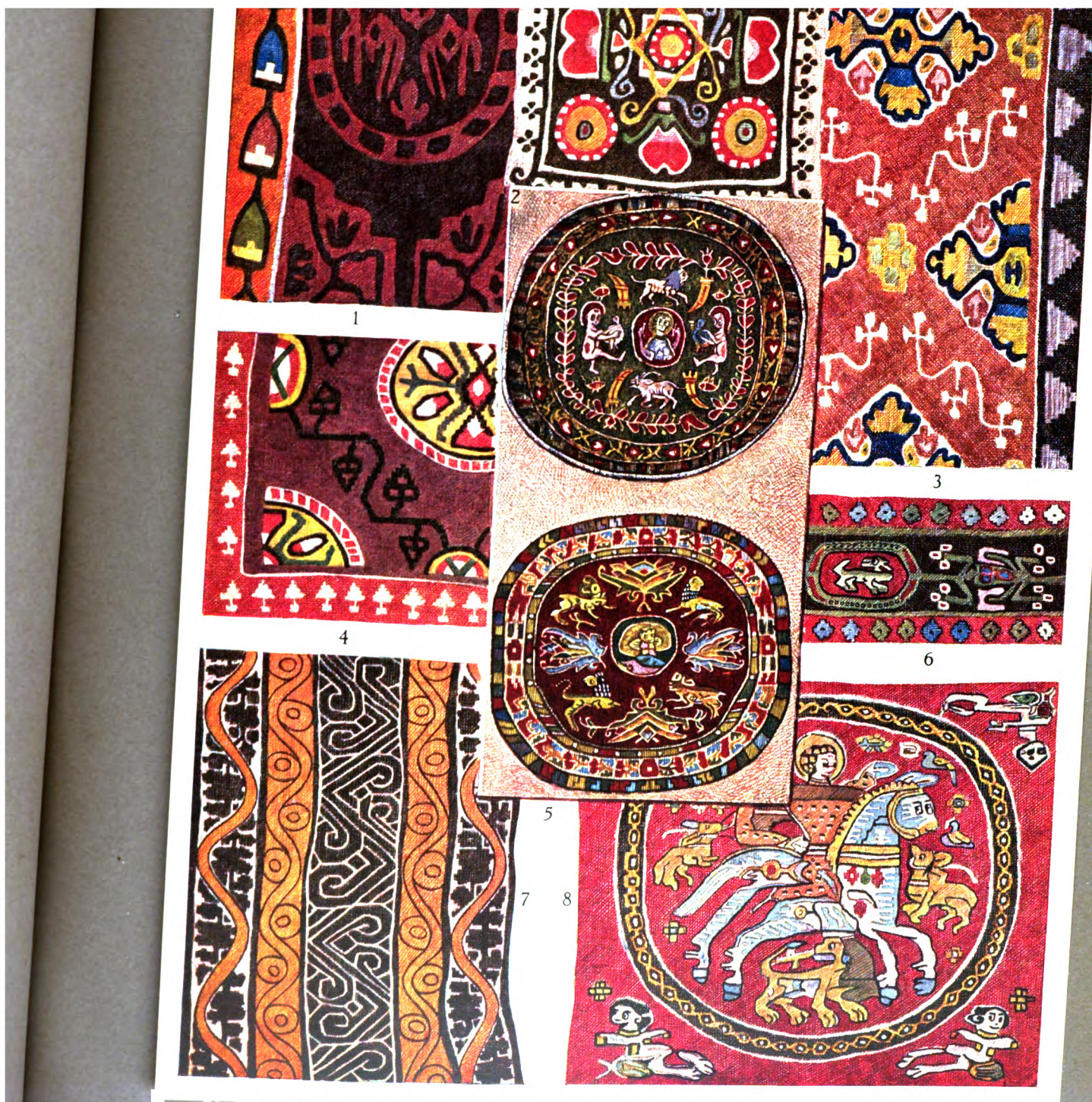




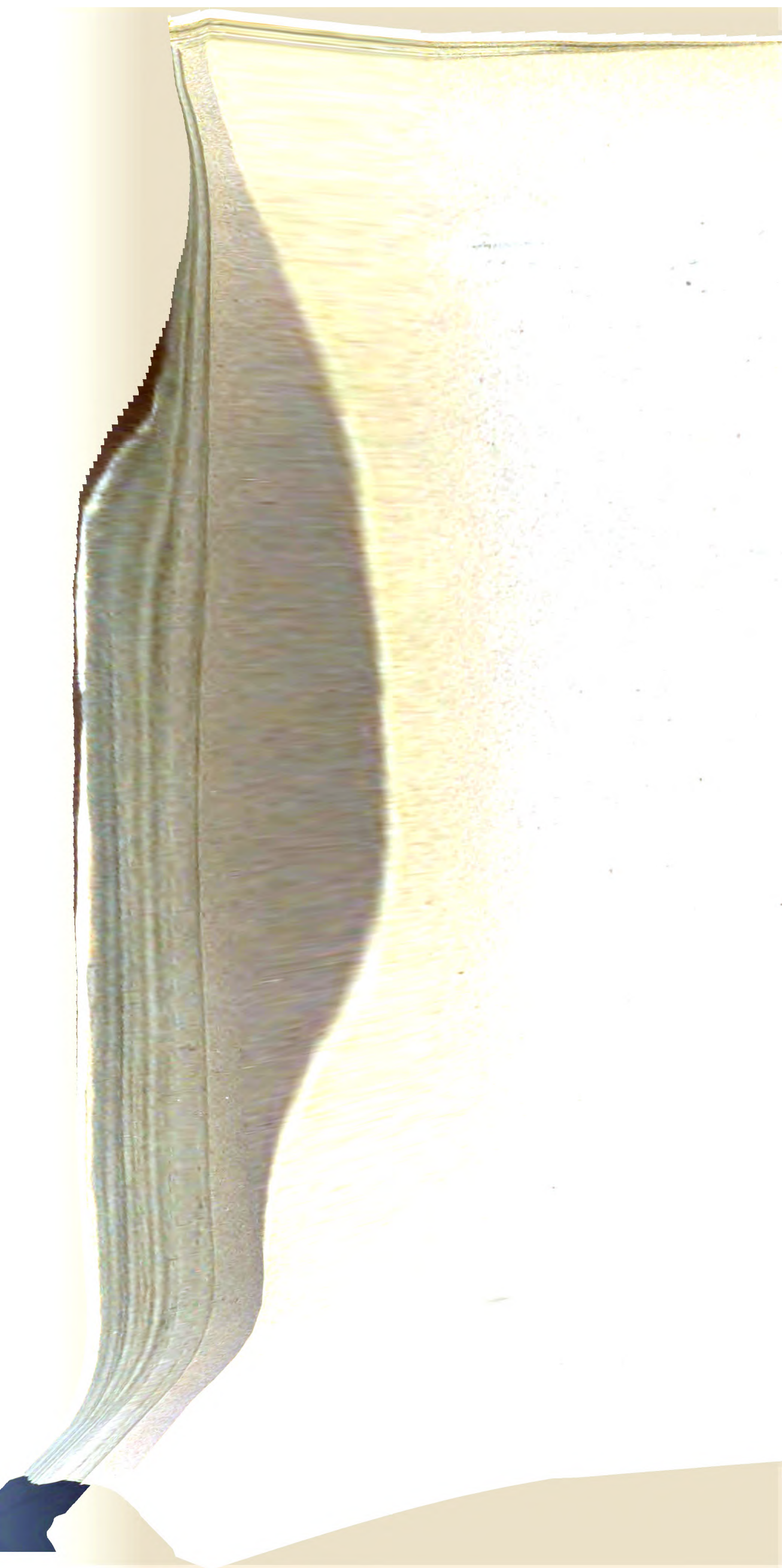


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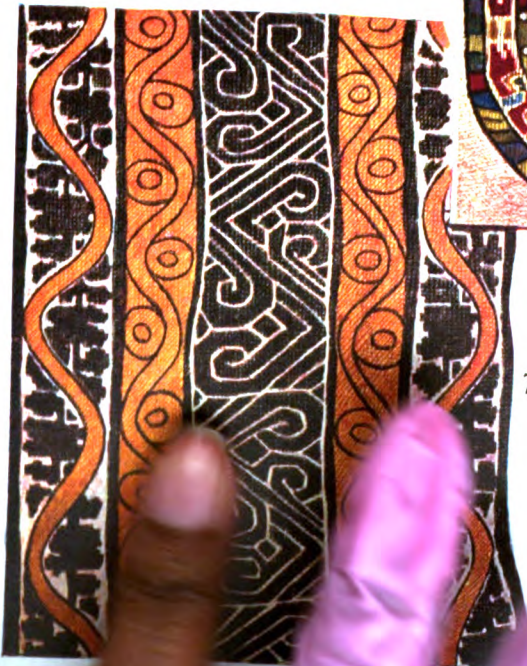


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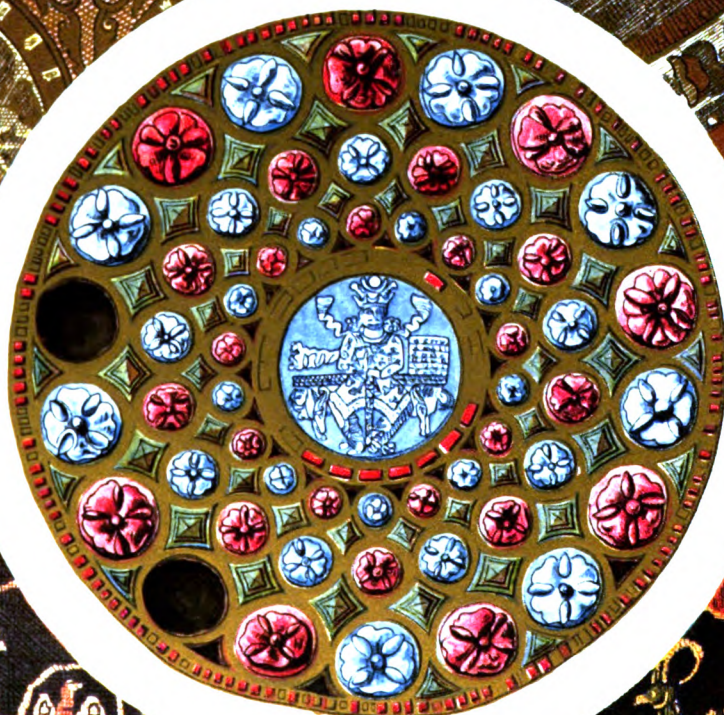
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